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ORIGINAL ARTICLES.

HEMORRHOIDS AND THEIR TREATMENT.[1]

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FROM the writer's standpoint, hemorrhoids are distinctly a surgical affection, and as such they will be treated in this paper, although the palliative treatment will receive its share of consideration. The close association of hemorrhoids with the genitals makes the discussion doubly interesting to the specialist and the general practitioner. It is not the object of the writer to enter into a prolonged discussion of the causes, nor is the anatomy to be considered in detail, but he trusts that a short description of the pile-bearing area and a few words relative to the causes of hemorrhoids will not be amiss.

The pile-bearing area is but about two and one-half inches in length, beginning at the anal margin, richly supplied with branches from the sacral plexus, and abundantly furnished with arterial and venous channels. It is interesting at this point to note the descriptions given to the end filaments of the veins. They are variously stated as ending in the so-called derivative circulation to that of small sacculations or dilatations, and it is this latter description that is most frequently accepted. To this accepted venous termination the entire hemorrhoidal theory is ascribed. The arteries supplying the pile-bearing area assume a course parallel to the long axis of the bowel instead of transversely, as in the remainder of the intestinal tract. The mucous membrane in this region is peculiarily arranged, particularly so at the lowermost portion of the area. Here the membrane is thrown into folds or columns, forming sinuses known as the columns and sinuses of Morgagni. These folds and columns, with their intervening pouches, frequently, especially so when inflamed or congested, are taken for piles, and it is in this structure that the quack finds his rich reward. These pouches can be everted in all cases, when the bowel is in a normal state, by placing the hands on the buttocks, the patient then bearing down, and as he does so traction being made on each buttock with the fingers. They will then be seen as folds of mucous membrane, and resemble very much in their general appearance small semilunar valves with their concavities upward. A probe can be passed downward behind the membranous-like flap for a distance varying from one-sixth to one-half an inch, and owing to this peculiarity they are frequently but wrongly called fistulæ.

One who sees many cases of these protrusions is astounded in taking the histories at the percentage of patients who ascribe their disease to attacks of diarrhea, although almost all accepted authors lay great stress on the influence of constipation as the causative factor. It cannot be gainsaid that a relative condition exists between varicose veins and hemorrhoids, as in a great many cases of hemorrhoids other varicosities are found. Naturally, with a predisposition to varicosities in the veins at other parts of the body, a very slight exciting cause is necessary to produce the evil. Some of these causes are obstruction to the venous return, as produced by constipation; intrapelvic tumors; retrodisplacements of the uterus; pelvic exudates; atonic condition of the musculature of the rectum and sigmoid; rigidity or stricture at the anus; expulsive efforts as noted during attacks of diarrhea and in the expulsive efforts when the outflow from the bladder is for any reason involved, as in cases of stone, stricture of the urethra, enlarged prostate, cystitis, etc. Alcohol, sexual excesses, masturbation, and even unsatisfied sexual desire are said to be predisposing factors. High living and sedentary habits are also contributing causes. Recently the writer operated in a case which was said to have had its origin in physical exercise. The patient in this case was a prominent amateur athlete, who said that his condition was due to overtraining.

In the general symptomatology the cardinal objective sign is the protrusion of a mass, either constant, or only seen following the act of defecation. This protrusion varies in size from that of a pea to one that practically surrounds the anal margin, and is from a quarter of an inch to an inch or more in length. Hemorrhage, as a sign, is as likely to accompany irritable ulcers, the so-called fissures, fistulæ, malignant diseases, and polypi, as it is to accompany hemorrhoids of the bleeding or capillary variety. Subjectively, the patient is apt to complain of pain at the time of or immediately after the act of defeca-

[1] Read before the Northwestern Medical and Surgical Society.

tion, discomfort, and a sense of an imperfectly emptied bowel, and of tenesmus, which is frequently due to the sphincter grasping the protruded mass. Pain is frequently present in the lumbar region, which may even extend to the thighs and legs. In addition to the symptoms directly referable to the anal region, there is frequently a chain of nervous symptoms of which mental depression, probably due to the fear of the trouble becoming malignant, irritability, fear of some impending disaster, and sexual impairment predominate.

Hemorrhoids, as far as the general practitioner is concerned, may be divided into two great classes, the external and internal. The external ones are those which arise from the tissues outside the external sphincter, while the internal variety consists of those which arise from the lower portion of the rectum, and are seen only when protruded after a movement of the bowels, or protruded as a result of some physical effort, or can be seen upon instrumentation with the speculum or the Kelly proctoscope. The external are subdivided into three varieties: the thrombotic, the cutaneous, and the venous. The latter variety is liable to become edematous, and is then called by some the edematous pile. The thrombotic variety is usually found in the mucocutaneous margin surrounding the anus. They are due, as a rule, to rupture of one of the veins about the anus, occurring as the result of straining during the act of defecation. The pile is hard, very painful, sensitive to the touch, bluish in appearance, and contains clotted blood. The second variety, the cutaneous, is a natural sequence of the thrombotic variety, *i. e.*, the clot is absorbed or organized so that its original site is filled with fibrous tissue. In this type there are, as a rule, no further subjective symptoms than an incessant pruritus, well-marked at night and after physical exercise. The third variety of the external, *i. e.*, the venous, borders very closely in its anatomic appearances upon the type of internal hemorrhoids known as the columnar, pedunculated or venous. In this variety of external piles there is an involvement of the mucous membrane and skin of the anus; the veins are dilated, and the mass may consist of but a single set of vessels or be of such dimensions as to almost completely surround the anus. The symptoms of this variety, barring inflammation and ulceration, are those of a protrusion non- or partially reducible, not painful and not bleeding except when inflamed or ulcerated. The internal class may be divided into two varieties: the capillary, or bleeding, and the columnar, venous, or pedunculated. The capillary pile is never seen externally except in cases of relaxation of the sphincter or of dilatation of this muscle. These piles resemble masses of deeply congested mucous membrane, and bleed upon contact of the finger or fecal mass; in fact, they resemble masses of healthy granulation tissue. They are seen upon the use of the speculum and proctoscope, and ordinarily present no evidences to digital examination; blood is seen after each movement, varying in quantity from a few drops to several drams. In addition to the local evidences, all of the manifestations of anemia are frequently seen, while the patient presents a subjective chain of symptoms which are entirely of anemic origin. This variety will eventually result in the columnar type. The second, or columnar variety, usually known by the names of venous or pedunculated, are made up of a mass of dilated veins and one or more arterial twigs. They protrude upon straining or defecation, and are readily reducible, except in case of neglect, when they are liable to become strangulated, edematous, or undergo ulceration and slough. Should any of these changes occur, it then assumes all the evidences of an inflamed pile. These pedunculated piles can be felt upon digital examination, and seen readily with the use of the speculum or proctoscope.

In examining the patient externally, the Sims position is the best, provided that the buttocks are well separated and the patient strains as though about to have a movement from the bowel; when this is done, almost an inch more of the mucous membrane will be protruded than when in the stooping position. For digital examination, either the lateral or dorsal position of the patient is satisfactory. The finger should be protected with a finger-cot, thoroughly anointed with some bland lubricant. Gentle pressure is then made upon the sphincter until its rigidity is overcome. These finger-cots are so thin that the tactile sensation of the finger is not impaired to any extent, while, in addition, they protect the physician from infection and keep the examining finger clean. For speculum or proctoscopic examination the bowel should be thoroughly clean, and in all sensitive cases anesthesia should be produced. Anesthesia permits of a complete examination being made with a view to locating fistulæ and ulcers, which are frequently present in these cases.

The removal of the cause of hemorrhoids will very often be followed by the disappearance of the pile. This is often seen in cases of cured retrodisplacements, stricture, enlarged prostate, stone in the bladder, etc.

Little can be said in favor of medicinal treatment effecting a cure, but with proper attention to the diet and the regulation of the bowels much can be accomplished in relieving the patient of his misery. The venous variety of the external class is frequently

benefited by applications of cold water once or twice daily, while in the capillary variety a suppository of some strong astringent or an astringent ointment has proved curative in my hands. I am accustomed to use a suppository in these cases composed of the following ingredients:

℞ Ferri subsulph. . . . gr. ¼ to ½
Ext. stramonii . . . gr. ½ to 1
Buty. cocoa . . . q.s.
M. Ft. sup. No. 1. Sig. Use at night.

Morphin may be added in case there is much pain.

In the surgical consideration of hemorrhoids the varieties will be considered in the order in which they were described. The thrombotic type, if left to Nature, disappears almost completely by absorption of the clot, nothing but a skin tab remaining. To relieve the patient of his pain and to allow him to attend to his business without loss of time, it is advisable to open the mass and turn out the clot. This is best accomplished by grasping the pile at its apex with a pair of forceps, and cutting off a piece of the skin or mucous membrane, rather than to incise the tissues, as by the latter means it is often necessary to do a secondary operation, caused by the refilling of the cavity, due to primary union occurring in the incision. I have had the misfortune to be compelled to operate a third time in a case treated by incision. After the clot has been extruded, a gauze dressing is worn for a few days until the resulting ulcer heals. As a rule, this requires about a week or ten days. The skin tab variety is a most potent factor frequently of persistent and unbearable pruritus. To alleviate and cure the patient it is my custom to cut off the skin protrusion and dress the bleeding area with sterile gauze.

The third, or venous variety, of the external class is very frequently cured by the galvanic current in the following manner: A needle is attached to one of the poles and introduced into the mass, while the other pole is placed over the sacral or lumbar region. A current of sufficient strength is then turned on and continued long enough to produce a foam at the point of entry of the needle, or a swelling and blanching of the pile. As a result there is a thrombus formation, occlusion of the vessels, with a final shrinkage, and cure of the mass. Allingham's operation has proved the most satisfactory in my hands in these cases. The time of confinement to the house is from three to ten days. The question of anesthetics is a very simple one. It has been my custom in these three varieties to use nothing but local agents to produce the necessary anesthesia for an absolutely painless operation. During the past three years I have given up the use of cocain entirely, and now use a two-per-cent. solution of eucain hydrochlorate. So far no untoward effects have been observed. The anesthesia is as profound, and is as rapidly induced as by the use of cocain, and is sufficiently lasting to allow of quite a protracted operation.

Hemorrhoids of the capillary variety are treated with fuming nitric acid, applied by means of a glass rod, and then followed by washing the pile with water, or they can be cured by touching their entire surface with the actual cautery. The pedunculated variety is subjected to one of three operations, with preference by the author in the following order: Allingham's, or the ligature; clamp and cautery, and Whitehead's, the latter being resorted to only when the crop of hemorrhoids involves the entire pile-bearing area. Following is the technic of operation: The patient should be subjected to a light diet for a few days, a cathartic being given the night before and an enema the morning of the operation. After complete anesthesia has been produced, the patient is placed in the lithotomy position and the sphincter dilated slowly by the successive introduction of the index, middle, ring, and little fingers rather than by the method of introducing the thumbs and using the tuber ischii as means of purchase for making traction. The former method is not followed by the lacerations so frequently seen when the latter method is used, nor is there such a profound degree of after paralysis of the sphincter. The pile is then grasped in a pair of small volsellum forceps, the mucous membrane is incised about the base of the pile, and the submucous tissues dissected up to the pedicle, which contains the vascular supply. Should the pedicle be a large one, then a transfixion ligature is used, and the two portions tied and cut off; in case the pedicle is small, a single ligature is applied and the pile cut off close to the ligature. Recently it has been advocated that the stump be depressed and the mucous membrane be sewed over the stump, the originator claiming that the process of repair is hurried, and that no ulcer forms at the site of removal, provided the mucous membrane unites *per primum*. He also claimed, and very justly, that the danger of fistulæ is reduced to a minimum. This operation can be performed in a few minutes, and has always proved satisfactory in my hands.

The clamp and cautery method has been advocated by its adherents on account of its simplicity, and also because no ligature is used to enclose in the stump the end nerve-filaments, thereby producing an extra amount of pain during convalescence. In this method the pile is seized with a pair of forceps, as in the preceding operation, and pulled well out-

side the sphincter. It is then grasped in the long axis of the bowel by a Smith or Kelsey clamp, applied close to the base of the pile. The portion to be removed is then cut off close to the blades of the clamp, the bleeding edge is seared with the actual cautery, and the clamp is then eased up gradually to see that no bleeding-points are present. If there are none, the clamp is removed. In case there is bleeding the cautery is again applied before the clamp is finally removed. I have had quite an entensive experience with both of these methods, and cannot see any advantage of the latter over the former, but must say that in the latter hemorrhage is more liable to occur in the hands of the inexperienced than in the former, and that when bleeding does occur it is extremely difficult to grasp the bleeding-point on account of the retraction that takes place. In one case in particular in which this occurred I was called in by a fellow practitioner to check a very free hemorrhage in a patient upon whom he had operated the evening before. It is not advisable, owing to the tendency to stricture formation, to remove the entire mucous membrane by this method, but to leave narrow bands of the mucous membrane between each point of operation.

The Whitehead operation is indicated in cases where the entire pile-bearing area is involved, and in which either of the other operations would require the complete removal of the mucous membrane. In this operation the mucous membrane is incised around the entire anal margin, care being taken not to involve the skin; then a dissection is made extending up the bowel under the mucous membrane to a point just beyond the upper margin of the piles. This dissected portion is then excised and the edge of the intact mucous membrane is sutured to the skin margin of the anus. Owing to the extent of this dissection, the hemorrhage is often quite profuse, but is not difficult to control. Objectional features offered in this operation are the great area exposed to sepsis and possibilities of non-union of the tissues, and as a result stricture formation. My individual experience has been limited to few of these operations, but my observations upon numbers of these cases operated upon by others have more than convinced me of the tendency and danger of stricture formation. The patients so operated upon are usually required to remain in bed from two to three weeks.

The treatment by injections of carbolic acid and oil, or ethereal solutions of iodoform, have never appealed to me in any sense but that of torture, as the pain induced by injections is frequently more lasting than that following any of the operations mentioned. The danger of abscess, ulcer, and fistula is too great, while the permanancy of cure has not been sufficiently established to warrant recommending this method.

Attention should be directed in all post-operative cases to the proper regulation of the bowels, restriction of the diet both as to quantity and quality, exercise in moderation, and the change from a sedentary to a more active habit; otherwise, numbers of these patients who have been operated upon will return with a new protrusion which they consider a result of an incomplete or rather an imperfect operation.

SHOULD NON-ABSORBABLE LIGATURES BE DISCARDED IN GYNECOLOGICAL SURGERY?[1]

BY R. STANSBURY SUTTON, M.D.,
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SURGEONS, antedating 1845, with the single exception of Nathan Smith, had used only silk or linen thread for sutures or ligatures. These materials were not subjected to any process of preparation beyond the application of a coating of septic wax; the suture material, silk or linen, and the wax were all septic. As a sequel suppuration resulted continually. The wax melted away, the suture material absorbed the serum responding to local irritation, and, preserved at the temperature of the living tissues, the suture material, loaded with bacteria, became a natural incubator for bacteria, a focus, or foci, for distribution to surrounding tissues. The ignorance of the older surgeons as to the value of sterile ligature and suture material, and the absence of a knowledge of germicidal chemicals and heat on such material, coupled with the lack of knowledge of antiseptic superdressing and douches is forever commemorated in their writings, by the oft-repeated expression "laudable pus," in connection with the healing of wounds. If this statement is challenged I ask that the statistics of the older surgeons be compared with those of the present generation, not alone as to mortality but as to the progress and process of wound repair.

In these facts are found an explanation of the failure of our illustrious Fellow, Marion Sims, to perfect the operation for vesicovaginal fistula prior to 1845. In the summer of that year, Metanour of Virginia introduced lead wire as a suture material. Sims, well-nigh heart-broken over his failure to establish the vesicovaginal fistula operation, observed a bit of fine brass wire lying in the path between his office and his home. He picked it up and while toying with it received the suggestion of silver wire as a su-

[1] Read in the discussion upon this subject at the Twenty-third Annual Meeting of the American Gynecological Society, held at Boston, May 24, 25 and 26, 1898.

ture material. A local silversmith produced for him a supply of siver wire. With this new suture material Sims succeeded and gave us, perfected, his vesicovaginal fistula operation.

It was a non-absorbable suture, not an incubator, not a great irritator of the tissues, and without the addition of modern antiseptic douche or prior sterilization. It proved to be the lost link in the technic leading to success. To Sims I accord the introduction to modern surgery of silver wire, the first acceptable non-absorbent metallic suture. From 1845 silver wire advanced in favor. By 1863 Sims and Thomas Addis Emmet had adopted it in all operations within the vagina from trachelorrhaphy to perineorrhaphy. At the Woman's Hospital in New York it was the approved suture material. Emmet extended it use, and with it secured the pedicle in twenty-one ovariotomies. It was used in suture of the uterus after Cæsarean section, and finally it came into general use in general surgery.

The popularity of silver wire must after a half century be subjected to a new test in comparison with a new metallic suture made from aluminum bronze. This substance possesses the advantage of greater pliability, can be tied in knots as readily as silk, and is easier of extraction. Iron, steel, and lead wire, may be relegated to another use, namely, to build a fence around the grave of "Laudable Pus."

During the last fifteen years, under the banner of antisepsis, absorbable sutures and ligature material have almost driven metallic suture material from the field of surgery. What are the materials, and wherein lie their claims to adoption or substitution? The difficulty attending the introduction and removal of silver wire, especially its removal under all circumstances, is an objectionable feature. In this lies the great argument against its use, and the great argument in favor of a more pliable, and, if possible, perishable and absorbable material. Standing midway between metallic suture and silk, catgut, and kangaroo tendon is a substance to be considered. This substance known as "*fil de Florence*," or silkworm gut, was introduced about twenty years ago. At first it was used unsterilized. It is but slightly absorbent and practically non-absorbable. I have removed it from the tissues after two years, and found it unchanged. When successfully sterilized it becomes encysted and harmless in the tissues; when buried completely the loop is kept pliable by absorption of serum; the exposed ends of the suture become hard, and cannot be bent over or twisted, as can the ends of silver wire. In the vagina or rectum they irritate or annoy. Excepting in superficial wounds I have discarded it. It still holds a place in Tait's perineal operation, when the ends are outside of the vagina and should be left long. For the drainage of wounds it is a most admirable material. Silk, catgut, and kangaroo tendon remain to be considered. Silk is the simplest and most perfect of all textile fibers. It is the natural product of the silkworm. Its luster, strength, and pliability commend it above all other material for the ligation of arteries or veins; it is after proper preparation superior to catgut within the abdominal cavity. It is slow and uncertain in its non-irritating disintegration in tissues beyond those mentioned. In vaginal surgery properly prepared silk is very satisfactory. In the cervix it may be left without detriment for months. In all the perineal operations, excepting Tait's, it gives excellent results and is easily removed. In vesicofistula operations I adhere to the use of silver wire.

Since 1866, under the influence of Lord Lister, catgut has come into favor. It claim for superiority is that after its introduction into the tissues it gradually melts away and is absorbed. Raw catgut is always septic. All surgeons have not mastered its management, but when it is well prepared, properly sterilized and chromicized, it forms a suture material of great practical utility. It may be left in the wounds, saving time as well as annoyance to the patient. It lessens the surgeon's labors also. It may be the substitute for silk in all vaginal operations. Kangaroo tendon, also an animal suture material, has been much lauded by Dr. Marcy of Boston. So far as I have used it, it has given satisfaction. But I doubt its superiority over catgut.

In 1845 when Sims succeeded with silver wire and noted the absence of inflammation in the edges of the vesicovaginal fistula, and of cystitis, as characterized by a flow of urine "as clear as spring water," he knew nothing of germs and, therefore, did not know the real cause of his success, nor did he know that science would yet make silk do what it had refused to do for him, nor that silkworm gut or catgut would become acceptable suture materials in vesicovaginal fistula operations.

I will not tire you by bringing up the immortal labors of Schwan, Wolf, and others in biology, or Pasteur and Lister along the development and application of these labors to surgery and the antiseptic principle of antisepsis, but will now turn to the practical application of absorbable or non-absorbable ligatures or sutures to the plastic surgery of the vagina as practised in my private hospital. The preparation of the surface upon which an operation is to be performed stands first in importance. If this surface is not properly prepared and made sterile, any operation is handicapped; therefore, after the patient is anesthetized, the vagina is scrubbed out with a ten-

per-cent. solution of creolin in alcohol, with the addition of green soap, then is rinsed out with ninety-five-per-cent. alcohol, then with 1–4000 bichlorid solution, and finally with sterilized water. The vulva and surrounding surfaces are included in the scrubbing process. If a trachelorrhaphy only is to be done, I have no choice in the suture; it may be silver wire, silkworm gut, catgut, or silk; if posterior or anterior colporrhaphy and perineorrhaphy is to be added to the trachelorrhaphy I use catgut for all. If the perineal operation is to be that recommended by Mr. Lawson Tait, I use silkworm gut. In other forms of perineal operations I employ silk or catgut. In vesicovaginal fistula operations I adhere to silver wire. In all operations on the rectum in which suture material is resorted to, silk and catgut will be found to be the best. To revert to the question under discussion, and its answer, it is my opinion that for buried sutures properly prepared catgut is all sufficient. Excepting in the peritoneal cavity it is always superior to silk. Non-absorbable suture—silver wire and silkworm gut—have but a limited range of preference in surgical operations.

SYPHILIS OF THE NERVOUS SYSTEM.[1]

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IT is, of course, not the hope of the writer to adequately review so extensive a subject as that embraced in the title of this paper, nor yet is it his expectation to increase the aggregate knowledge of it, but it may not be devoid of profit to call attention to some points which especially tend to make the disease oftentimes obscure and difficult of diagnosis. That the general practitioner very frequently does fail to diagnose, and so to properly treat, cerebral syphilis there will probably be few or none to deny.

In the first place, it is well to recall that syphilis figures very largely, more largely I think than is commonly thought, in the etiology of diseases of the nervous system generally. There are comparatively few forms of insanity in which it does not stand in a causal relation and one writer has gone so far as to claim that tabes is essentially a syphilitic disease, alleging that fully ninety per cent. of cases of this disease date back to a specific origin. Where syphilis is the prime etiologic factor in nervous affections, its effect almost uniformly is to produce an atypical form of disease. It is, therefore, masked under protean forms and it is seldom that two cases follow precisely the same track. The very long immunity, not only from any nervous manifestations, but also from any secondary or tertiary specific troubles, which may follow the initial lesion, not infrequently renders it difficult for the patient to recall the occurrence of luetic trouble, and, therefore, it is likely to be a common source of confusion and difficulty to the careful physician. The wilful, expert, and persistent mendacity so common to the syphilitic patient is also a factor to be dealt with.

Sunstroke, injury, and other inventions of a mind fertile in evasions are not infrequently obtruded by the patient and his friends as the cause of all the trouble. In spite of evasions, denials, and even a most exemplary life for years, it must always be remembered that syphilis of the nervous system may develop at any time, from a few months to thirty years after the primary infection. Cases are on record in which the nervous manifestations have occurred as early as one month after infection, and Fournier has reported a case occurring twenty-five years after.

Gowers says: "Syphilitic disease is a common cause of softening; it is chiefly a consequence of acquired syphilis." As to age, he says: "Half the cases occur between 30 and 40, one-third between 20 and 30, and most of the remainder between 40 and 50. Cases under 20 or over 50 are rare." He further says: "I have met with it as early as six months and as late as nineteen years after the primary sore." Of fifty cases observed by this author, nine occurred between 2 and 3 years after, seven from 3 to 5, nine from 6 to 10, eleven from 11 to 15, and four cases from 16 to 20 years after the initial lesion. The long interval which may thus intervene between the primary lesion and the first symptoms of disease of the nervous system is of great importance and when the period has been long and the secondaries but slight, possibly the initial lesion having been accompanied by but little pain or annoyance, the persistent denial of specific possibilities may possibly be honest on the part of the patient and not seldom throw the diagnostician entirely off the track. Neither should it be forgotten that inherited syphilis may attack the nervous system. Such cases may be seen in infancy or much later in life, cases having been reported at the ages of 8, 10, 14, 18, 22, and 23. H. C. Wood quotes a case as occurring in his practice at 21. Pathology, diagnosis, and treatment are closely connected, for upon the existent pathologic state will depend the symptomatic manifestations and upon the advance which the pathologic lesion has already made will depend possibilities as to results of treatment.

Gumma and arterial disease are perhaps the more common forms of the syphilitic lesion, yet these are not distinctly separable, for it is probably compara-

[1] Read before the Section on Medicine of the Michigan State Medical Society, May 6, 1898.

tively seldom that gumma exists as a separate entity without involving other tissues, aside from pressure and like irritation, and frequently, if not always (one writer says always), the gummatous process begins in the sheath of the arteriole by proliferation of the nuclei which immediately underly the vascular endothelium.

The site of the gummatous process, too, is all-important and may have much to do with the character of the symptoms developed, whether occlusive, merely mental, or paralytic in character, though, of course, the latter point is also quite as largely determined by the stage reached in the specific process. If this has proceeded far enough to cause occlusion of the artery, acute softening may result. "As an isolated change, it is almost confined to the largest arteries . . . and is most common in the internal carotid, middle cerebral, vertebral, basilar, and posterior cerebral." (Gowers.) While the change itself may proceed to the obliteration of a vessel, Gowers tells us that it is much more frequently the case that "when the lumen is considerably narrowed, a clot forms within it and suddenly arrests the circulation, or forms in branches arising from the affected part. The disease consists in a fibronuclear growth in the wall, which causes a nodular projection on the exterior and diminishes also the caliber of the vessel." There may be, then, a simple gummatous deposit, an extensive gummatous involvement of one or several vessels, possibly occlusion and consequent softening, a gummatous meningitis, or a specific meningo-encephalitis. In many cases two or more of these conditions may be present. So much for the more common pathologic conditions.

The symptoms naturally depend upon the pathologic phase present in any given case. While a chronic process may have long preceded the onset of serious symptoms, these may seem to come from a clear sky, *e. g.*, an apparently acute meningitis may rapidly develop, with violent convulsions, and possibly hemiplegia more or less complete follow. It is very frequent that prodromal symptoms, which have great value in diagnosis, have been passed over as insignificant and trivial by the patient and his friends, and the history of their occurrence is accordingly elicited with difficulty. Histories of attacks of irritability, drowsiness, stupor, mental confusion, temporary amnesia, so-called "fainting-fits," apparently causeless headaches, especially with nocturnal exacerbations, any or all, are straws which help the careful diagnostician to determine the direction of the wind. Epilepsy and apoplexy are diagnoses often jumped at and seemingly warranted in these cases, and yet they fall far short of the mark and may leave unaccomplished what might have been done for the patient by an early diagnosis of specific disease.

The prognosis as to what may be accomplished by treatment must, of course, be guarded, for obviously the possibilities will depend upon the length and extent of the gummatous process. The indications are clear to apply antispecific treatment in a vigorous and positive way. If the result of the therapeutic test be attended by an early clearing up of symptoms, it is of course gratifying and may be accepted as a confirmation of the diagnosis. It must be said on the other hand, however, that a failure of the symptoms to ameliorate under treatment by no means affects the validity of the diagnosis, and this is true for reasons already alluded to. In this connection it is interesting to note that Wood regards it as corroborative of the diagnosis that the patient bears well large doses of the iodids, believing that non-syphilitic patients will not bear this treatment without showing a good deal of irritation therefrom. I mention this point for what it may be worth.

Treatment may fail to show the results desired, especially in advanced cases. If a hemiplegia be due to structural changes which have gone so far as to be permanent, entire relief cannot at so late a date be reasonably hoped for. Well-marked paralyses, however, and somnolence and stupor, which have lasted weeks and even months, have repeatedly cleared up under vigorous treatment. While it is characteristic of a hemiplegia due to specific causes that it is seldom complete, this cannot be accepted as an invariable rule for such hemiplegias are at times entirely complete.

I desire to report the following case as confirmatory of some of the points already alluded to in this paper:

Soon after eight o'clock one morning last fall, I was called to see Mr. P., who, I was informed, had just been paralyzed. He is forty-three years of age, a business man, and has every outward appearance to the casual observer of a man in vigorous health. I knew of his having sustained an injury about eight months previous, and while he had recovered from its immediate effects, there having been a fall and contusion about the left hip, he did not regain vigorous health after it and perhaps naturally attributed many of his symptoms to this accident.

When I first saw him it was about an hour after his first attack. He looked a little flushed, was lying on a lounge on his left side, and greeted me almost hilariously, saying, "I'm all right," and gripping my hand vigorously with his right hand. I inquired as to his right leg and he lifted it vigorously and quickly, showing excellent motor control of it. He said that about an hour before, while attending to a matter of business, his pencil suddenly fell from his right hand. He picked it up, but dropped it

again and repeatedly, and in a few minutes found that he had no use of the right side. He was helped into the open air and soon after into a carriage and was driven home. As I have already said, an hour later when I first saw him control of the right side was good. The paralytic symptoms later increased and at 6 P. M. the same day he had but little, though some, use of the right side. Clonic convulsive movements of that side had continued at intervals throughout the day. The next day paralysis of the right side was practically complete. Here clearly was a condition not due to a sudden apoplexy. He was inclined to attribute all of his troubles to the accident which had occurred eight months before, a view with which I was unable to agree.

I find that he has been married twenty years, and that he has two children aged twelve and fourteen, who are apparently perfectly healthy. The family history is negative. He at first vigorously denied the possibility of syphilis, but finally admitted having contracted a suspicious venereal lesion at about his twentieth year, which he says the doctor told him was not syphilitic. Careful questioning, however, threw serious doubts upon this diagnosis and brought out the fact that some years later he was obliged to consult a physician for what was called and treated as "catarrh." At this time there was a noticeable falling in of the bridge of the nose, undoubtedly due to syphilitic disease of the nasal bones. He claims to have been well with this exception throughout his married life and to have been perfectly correct in his habits during this time. Persistent and further questioning as to the symptoms since his accident and the query as to whether he had ever known such symptoms before the injury seem to inspire his memory and he admits that he has had occasional attacks of mental confusion for a year, perhaps, and I learned that his wife has noticed these attacks for a much longer time, two or three years, in fact. At these times he would repeat the same thing two or three times, was very irritable, and was disposed to be very profane, something quite foreign to his usual habits.

I find that one alleged specialist in diseases of the nervous system treated him for two years or longer for "nervous trouble" without ever suspecting the presence of specific disease, and last summer he fell into the hands of a homeopathic practitioner who told him that the case was too complex for him to undertake single-handed and so summoned to his aid a homeopathic neurologist, but no diagnosis of specific disease was apparently made out.

On further inquiry I find that some four years ago in his business office he showed attacks of marked aberration of memory, when he could not recall events of the day before nor letters written that same day. I am unable to learn of marked convulsive attacks. He has never fallen at home, but in his office has nearly fallen two or three times, only the timely assistance of others saving him from a fall. At home, it has been noticed two or three times during the last year that his speech seemed unusually thick. These attacks would pass off in from one-half to three-quarters of an hour, and there was no loss of motor control attending them. Throughout the summer of 1897, however, he at times had had difficulty with the right side while walking, had less control of that side, and the right foot was clumsy.

Aphasia was only partial when motor hemiplegia was complete, or nearly so, and the speech soon improved. At 6 P.M. on the day I first saw him his pulse was 80, soft and regular, and temperature 99.4° F. At 11.30 A.M. next day, pulse 67, of like character, and temperature 98.2° F. For the next ten days the temperature, at times normal, was more frequently 99.2° to 99.4° F.

My diagnosis of hemiplegia due to specific disease was based primarily upon the history of suspicious infection, which was confirmed by his later alleged "catarrh," upon his history of prodromal attacks of mental confusion, irritability, temporary amnesia, and tendency to convulsive attacks and his age. My prognosis, owing to the long period covered by these prodromal symptoms, was necessarily guarded. I expressed my belief in his ultimate improvement, though to what extent the paralysis would disappear, no one could say.

He began at once to take sodium iodid, 20 grains, three times daily, and this was soon increased to double the amount. He also during two months received a daily inunction of 30 grains of mercurial ointment. After a week he began to move the right hand and there has been gradual improvement in motor control since that time.

His mental phases have been more difficult of management, and these cases, in this respect especially, often tax the resources of the most fertile therapeutist. After a steady and vigorous pushing of the antispecific treatment for two or three months it was gradually diminished as I feared the iodids had to do with the increasing intense nervousness and irritability which annoyed him exceedingly. At these times inhibition was practically *nil*.

Attempting to control this state by 5-grain doses of trional at intervals of four hours through the day, I had a most unusual experience. On calling to see my patient on the day following the giving of this prescription I was greeted most hilariously; he told me he was "fuller'n a tick" and his actions confirmed his statement, for they were characteristic of a man moderately drunk. He confided to me that it was "the cheapest drunk he had ever had," and that he "felt bully." I mention it because it seems to me a very unusual effect of the drug, especially of so small a dose as 5 grains.

Faradism was most acceptable to the paralyzed side and it has never failed to exercise a most pleasing sedative effect upon the patient, who has improved rapidly of late and now rides and walks out daily though he will always bear marked evidence of the hemiplegia.

I do not feel any the less sure of my diagnosis because a vigorous antispecific treatment failed to entirely clear up the paralysis present. I attribute this failure to the permanent structural changes which had

taken place before I first saw him. I believe that an earlier recognition of the real cause might have saved him from the hemiplegia.

Another case in point, and one which well illustrates the efficiency of antispecific treatment when vigorously pushed, is that of Mr. W., whom I saw only recently in consultation. The patient was not in a condition to give any family or personal history himself and his relatives could add but little information except to confirm a rumor that in early life he had been at one time "pretty lively," and that during the previous six months he had been drinking heavily but had abruptly given up his alcoholic indulgence about three weeks before I saw him. He had had no distinctly alcoholic symptoms.

The patient is fifty-two years of age, a widower, had been married about thirty years; no children; wife had miscarried. He is a business man, having charge of the bookkeeping and the financial end of his business. From those associated with him I learned that for several months he had complained of severe headaches, and that there have been periods of mental confusion and great irritability. He would come home at night and attempt to read the evening paper, but would have to lay it aside, saying that it confused him and that "everything seemed to run together." His headaches were so violent that he repeatedly had to leave his work. I also had other reasons for suspecting that this man had had syphilis years before.

The patient was in a deeply somnolent state, did not recognize me, and responded to questions only by monosyllables, after much rousing, and then only in a half-intelligent manner. He could not complete a sentence nor carry an idea long enough to express it. He evacuated both bladder and bowels in bed without warning. There were no localizing or paralytic symptoms. I diagnosed the condition as cerebral syphilis and advised his physician that he be given potassium iodid, 40 grains, three times a day, and a daily inunction of 30 grains of mercurial ointment, the site of inunction to be changed each day. This advice was followed, with the happiest results. Improvement, at first slow, was steady, and after the first week was marked and rapid. His attending physician reports to me that he is now apparently as well as ever and that he has since married.

The results of prompt and energetic antispecific measures in these somnolent or stuporous cases are often most marked and are as gratifying to the patient and friends as they are to the physician. It is particularly important that a correct diagnosis be made early, that is, before permanent changes have taken place, as in that case only can one hope to obtain satisfactory results from treatment.

A Present to the "Relief."—Dr. William M. Polk of New York has presented to the hospital ship "Relief" for the use of the surgical staff a complete set of surgical instruments valued at $500.

WAR ARTICLES.

THE MORBIDITY OF THE VOLUNTEER FORCES AT CHICKAMAUGA PARK, GA.

BY HENRY I. RAYMOND, M.D.,
MAJOR AND SURGEON, UNITED STATES VOLUNTEERS.

IN writing you from Tampa, Florida, a few weeks since upon the morbidity of 10,000 regulars of the United States forces during their first calendar month in the field I expressed the hope that at some day in the near future I might make use of that statistical review as a basis of comparison for the morbidity that would be revealed during their first month of foreign invasion, or occupation, of Cuba. The troops being about to sail from Tampa, I was unexpectedly detached for duty with the Volunteer forces at Chickamauga Park, Georgia, and thus my former plan miscarried.

Through the courtesy of the Chief Surgeon of the Third Army Corps, and that of the commanding officer of one of the division hospitals, I am enabled to give your readers a statement and numerical summary of the principal diseases that have affected the troops of the division (say 10,000 strong) during their first month in the field here, and likewise during the first month of existence of this division hospital. It is chiefly, however, upon the so-called preventable diseases that I shall touch, inasmuch as means have been taken to prevent the further occurrence of these diseases among the troops located here by very particular attention to the purification of the water-supply for potable purposes, to a deterioration of which may justly be attributed the enormous amount of sickness in several of the regiments. It is believed that the sick-rate will be greatly reduced for the coming month coincidently with the introduction and use of the Maignon and Berkefeld water-filters. These have been distributed as follows: For each division hospital one of each make; for each ambulance company one of each make; for each division headquarters one of each make; for each regiment ten of each make. The date of distribution of these filters is nearly coincident with the termination of the period of thirty days covered by this report on the morbidity of the troops. Consequently it will be of exceedingly great interest to compare this month's sick report with that of the ensuing month. All the waters of this park have been condemned. They are unfit for use for drinking purposes in their natural condition. Before filters were received boiling of the drinking-water was of course resorted to, but failed to accomplish the desired end. Not but that the boiling destroyed all disease germs but the practice fell somewhat into disuse, because soldiers were averse to the drinking of unpalatable, luke-

warm or unsightly water, and were not thoroughly convinced of the unhealthfulness and suspicious character of the streams in this vicinity and consequently the requirements enjoined were not lived up to nor could they well be rigidly enforced. Now, however, we have had our object lesson and the enormous sick report has awakened a personal sense of the danger that lies in a disregard of sanitary precautions on this score. Since the Maignon and Berkefeld filters have been put into operation in our own camp the men eagerly fill their canteens from the purified water-supply and feel a large sense of security from attacks of typhoid fever, diarrheas, and dysenteries which have afflicted their comrades or themselves during their encampment here. We confidently look for a higher morale and a fuller sense of well being to prevail from this time on.

The report below covers the period from June 10th to July 10th and accounts only for the cases of sickness of such severity as to require hospital treatment. The figures are only approximate but substantially correct. The mean strength of the command for thirty days was: officers, 406; enlisted men, 9477; total, 9883. The number of admissions to the hospital (none being sent there who could possibly be treated at the regimental dispensaries, or as officially designated, "in quarters") was 735. The number admitted to sick report, of course, greatly exceeds the number sent to division hospitals, and in one or two regiments the admissions to sick report for the month equaled or perhaps exceeded 100 per cent. of the regimental mean strength for the month. The result was that something had to be done to greatly diminish this sick-rate or the regiment or brigade would soon be so reduced by non-effectives that preparations for an active campaign would have to be temporarily suspended. The remedy has been prescribed—means for purification of the drinking-water—and it remains to be seen how effectively it can be applied.

Of the 735 men admitted to the hospital about 450 have been returned to duty, about 25 have been sent to Leiter hospital, and 4 have died (1 of typhoid fever, 2 of cerebrospinal meningitis, and 1 of acute enteritis). About 2700 days have been lost to the government on account of sickness in hospital. Among the more serious cases, including the infectious diseases, affecting those admitted to the hospital are the following:

Pneumonia, 14 cases or .14 per cent. of the mean strength.
Typhoid fever, 88 cases or .89 per cent. of the mean strength.
Acute diarrhea, 84 cases or .84 per cent. of the mean strength.
Malarial fever (intermittent and remittent), 194 cases or 1.9 per cent. of the mean strength.
Measles, 87 cases or .88 per cent. of the mean strength.
Mumps, 14 cases or .14 per cent. of the mean strength.

I am strongly of the conviction that many of the remittent cases of so-called malarial fever will turn out to be mild cases of typhoid fever, as I can remark from examination of the records that fewer and fewer of the remittent-fever cases are entered on the register as malarial and proportionately more cases of continued fever are classified as enteric fever as the month progresses.

For all these infectious diseases, aggregating 380 cases (excluding 101 cases of measles and mumps), it is not far from the truth to affirm that the drinking-water is responsible. These diseases are preventable, and now that we are bountifully supplied with the means for routing both our invisible foes—the microbes—and those more tangible and macroscopic impurities that irritate the digestive tract, it will be our own fault if we supinely submit to their further inroads. Our warfare, however, must be aggressive, our vigilance unabated. The filters will get out of order; the water details will come in late; muddy water will be hauled because the clear springs are farther distant and the filters will become clogged with the clayey deposit and consigned to desuetude. We must learn the lesson early that it is better to spare two men from our effective strength for keeping the balance of the hundred off sick report than it is to destroy our effectiveness altogether by the neglect of sanitary precautions in the matter of providing an unimpeachable potable water-supply.

A NEWLY DEVISED CAMP SINK, OR LATRINE, FOR THE USE OF PERMANENT OR SEMI-PERMANENT CAMPS.

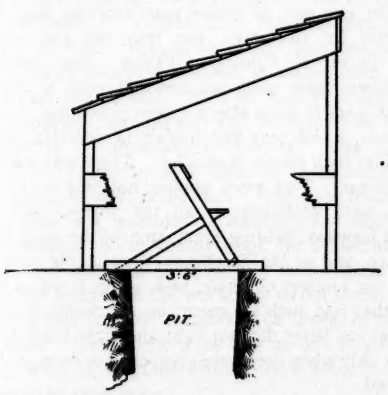
By JOHN McG. WOODBURY, M.D.,
MAJOR AND ACTING CHIEF-SURGEON, FIRST DIVISION, FIRST ARMY CORPS, UNITED STATES VOLUNTEERS.

ALMOST the first thing that arrested my attention on arriving at Camp Thomas, Chickamauga Park, and assuming the duties of acting chief-surgeon of the First Division, First Army Corps, to which I was assigned, was the condition of the sinks and latrines. These, to the number of seventy-three, I regularly inspected every day, and after much hard work got them into something like order and properly policed. Their filthy condition and the carelessness in policing I found mainly to arise from the lack of knowledge of the regimental surgeons as to a proper method of construction, the ignorance of the line officers as to the necessity of absolute cleanliness, and the prevailing carelessness of the men themselves, who, imagining that they would be ordered to the front at once, and ignorant of the fact that they were in a semi-permanent camp, let go every thought for the morrow, and became indescribably filthy in these matters.

After repeated inspections and calling of the attention of the regimental surgeons to this state of affairs, together with a careful pursuit of the line officers made me aware of the fact that in our army, at least, no regular method of construction was followed, and the literature on the subject being very scanty, I set myself to designing a sink for this purpose, which in this country where lumber is cheap, can be built for companies for $3.50, and for battalions for $5 each.

As the new regiments came in they were given a blue print of the design and a typewritten copy of the instructions, while for those on the ground when the old sinks were filled and new ones found necessary, they were built on this plan, save in the case of one of the Pennsylvania regiments, which came into camp splendidly equipped with shelter-tents to cover their sinks, and six-feet-high modesty-pieces hung to the poles. These they had had in use for some years, and so only the pit and seat were necessary for them. This uniformity in construction as well as the simplicity of the method of the same renders inspection easy, and when the absolute necessity of cleanliness had been forced upon the

FIG. 1.

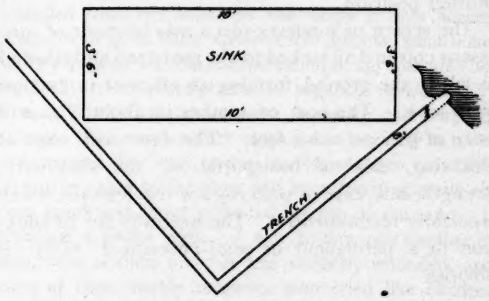


Elevation of shed, seat, and sink of latrine for permanent camps.

minds of officers and men, the latrines were readily kept in order. The policing consists of covering the dejecta of the men to the depth of four inches every six hours with earth, and when it can be obtained, an inch of unslaked building lime. As is well known, the common house-fly lays its eggs and the larvæ are developed in human feces as in the dung of horses, so that the transportation of many micro-organisms, such as those of some of the enteric disturbances, yellow fever, etc., is possible by means of these pests. The addition of the roof to the sink is much to the comfort and health of the men, who in wet weather, especially at night, will seek any shelter for such purposes rather than expose themselves to the elements. In addition to this, they are more certain to keep clean by making use of a well-constructed and comfortable sink than one carelessly or uncomfortably built. The man with typhoid fever who uses a camp sink, and who through careless policing leaves the sink with soiled hands, can transmit through the medium of handling a drinking-cup the germs of his disorder.

The accompanying plans for the construction of sinks are for company and battalion arrangement. The company sink calls for a pit 10 feet long, 10 feet deep, 3 feet 6 inches wide at the surface, and 2 feet 6 inches at the bottom. The battalion sink doubles the length with the same depth and width. These are protected from the flooding of surface water by a chevron-shaped ditch with the apex to the highest ground, and carried well to the rear on the wings. This ditch should be eight inches deep, and

FIG. 2.



Arrangement of drainage-trench for permanent camp latrine.

the excavated earth should be thrown to the inner side and there embanked. Over the top of the sink are placed three transverse pieces of lumber, "bed-pieces," 2 by 4 inches and 6 feet long. Upon each of these is raised an inclined support composed of two pieces of lumber, 2 by 4 inches, the piece at the front having an inclination of 120 degrees. The one at the back meets the one at the front so as to cross it at a distance of eighteen inches from the bed-piece, thus forming the support of the seat. At this point of crossing they are securely fastened together, and the back one cut at a mitre, so as to have the mitred face parallel with the bed-pieces. Upon these mitred faces of the back supports is stretched a strip of board 1 by 6 inches wide, forming the seat. At the top of the front pieces is also stretched a strip 1 by 6 inches, forming the back. This back prevents the possibility of falling into the sink backward from the seat.

This arrangement of bed-pieces, inclined supports, seat, and back being securely fastened together, can be readily removed to a new sink when

the old one may be filled or disused for any reason, as it is light and strong. The broom-scrubbing of the seat with 1 to 1000 bichlorid-of-mercury solution every day will keep the seat free from vermin, filth, etc., as it is easily accessible in every part.

This sink, seat, and excavation is protected from the elements by a shed formed of 2 by 4-inch scantling and boards 5 feet high in the rear and 7 feet high in front, 12 feet long and 8 feet wide, having faceboard diagonals as shown in Figure 1; also, a rail 3 feet from the ground on the upper side, formed for the purpose of security of the sink to visitors at night, and also for support of a screen or modesty-piece. The proportions of the shed or cover are sufficient to allow of men passing one another between the seat and front rail, and long enough to allow of standing at urination at the ends. The uprights at the sides of the shed are bedded on two strong pieces, eight feet long, which hold the structure firmly, permitting its bodily removal to another position.

The screen or modesty-piece may be made of canvass or cotton drill tacked to the guard rail and allowed to fall to the ground, forming an efficient protection from view. The cost of lumber is about $4, at a price of $15 per 1000 feet. The low cost, ease of cleansing, ease of transportation, the simplicity, strength, and ease of policing are the features which especially recommend it. The necessity for its adoption in a permanent or semi-permanent camp is obvious.

THE CONDITION OF THE SICK AND WOUNDED IN THE SANTIAGO CAMPAIGN—INEFFICIENCY IN PROVIDING HOSPITAL SUPPLIES.

[Special Correspondence of the MEDICAL NEWS.]

SIBONEY, CUBA, July 8, 1898.

I HAD expected to send you a letter dealing with matters in general aboard the magnificent floating hospital ship "Relief" but a day or two spent on land at this place, and the sights seen here, compel me to leave the pleasanter page of the "purple testament of bleeding war," if there is such a page, and to tell a plain, unvarnished tale of criminal incompetency, of untold, unnecessary suffering, to give a chronicle of treatment of the soldier which would disgrace a Hottentot or a Turk.

I know that this peroration smacks of the sensational, and possibly, may seem hysterical. Well, here are the cold, hard facts, which can be proved and are attested by dozens. To go back a bit: our troops were kept packed like dried mackerel on the transports under a broiling sun in Tampa Bay, from one Tuesday until the next, when they started on their journey to Cuba's southern coast, where they arrived just one week later. Many of the transports were dirty, rotten old boats, and horribly crowded. The "Yucatan," for instance, carried 1500, the allotted capacity being 800 at the outside. This is a fact, as the Rough Riders can attest. The delay at Tampa was attributed by the War Department at Washington to a Spanish fleet. This your readers will remember. The truth is, the water-tanks of many of the ships were foul and even the Department above-mentioned did not dare to send troops to sea without water, though they have no hesitancy in sending them to battle without food, as I shall show. Having, by the help of God and the elements, arrived at Baguiri, they were rushed pell mell to the front with three-days' rations. Other commissary stores were ordered to follow, over roads that were bridle paths and over a country which is a thicket. These poor fellows were hurried to the front, most of them in clothing more suitable for Nova Zembla, and with an outfit sufficient for an Arctic expedition.

The fact that they were thrown into battle without their field-guns does not interest us medically; I merely mention it in passing. After the first three days they had to get along as best they could, sometimes with stores, oftener without. Here is a statement of two of Roosevelt's Rough Riders. I know the men—they are gentlemen, and God knows have proven themselves brave men, "as in suffering all who suffer nothing." They came today into this place to get ammunition for their machine guns from Admiral Sampson. I remarked that they looked a bit thin. They laughed. They had had, I found on questioning them, nothing to stay their stomachs but one cup of coffee that morning and a little wild fruit for two days, but they did not complain. After the terrible fighting on Friday, when they stopped at sundown, these same two men and many of their companions went to sleep after a supper consisting of a cup of hot water, which they had heated in order to get something into their empty stomachs. There was nothing for them to eat. This story applies not only to the Rough Riders but practically to all the troops. They were rushed forward, fighting every step of the way, anyhow, any way, and as Mr. Steppings Wright, the correspondent of the London *Graphic*, said to me, it was a merciful thing they had such an enemy as the Spaniards to fight; not that the latter did not fight and fight hard, but they fought only when they were compelled to do so, only when cornered.

In the three-days' fighting upward of 2000 of our troops were killed and wounded, and this time the unexpected did not happen, the surgeons were swamped—the boasted ambulance corps a thing like the wounded, of shreds and patches. In the first place, in many instances, the field-hospital requisitions had not arrived and the surgeons had nothing but first-aid-to-the-injured bandages, etc. Wounded men were left unattended for hours, while others had to be carried several miles before they reached what by apology was called a field hospital. Stretchers were as scarce as an honest reconcentrado, and mere medicines were conspicuous by their absence. This all sounds pretty bad but the statements are those of soldiers, officers, and correspondents.

I desire just here to state that for this disgraceful condition of things the Medical Department of the Army is

not responsible. Everything that human ingenuity could suggest, and intelligent scientific effort could direct had been done by the Surgeon-General, but the answer for all this bungling is not to be read, as the Germans say, "In the stars," but in the office of the Secretary of War. He who runs may read, and the hundreds of political appointments to staff positions and in the Commissary and Quartermaster Departments quite sufficiently explain the hideous lack of preparation and the absolutely insane manner in which this business here has been risked, and the consequent suffering entailed upon as brave and uncomplaining a lot of men as ever faced a foe. An instance, not medical, but still of interest, as illustrating how things were and are being done: It seems a small thing to the laity in New York to read that the cavalry have been sent to the front without their horses. Your wiseacre says, "They could not have used them anyway," but how about the men who were sent to an almost hand-to-hand fight with short, cavalry rifles, that have no bayonets. But the battle has been fought and a division hospital established at this place, Siboney, eight miles from the front. I was not an eye-witness to what I have above described. I now come to scenes which I have, I regret to say, witnessed. I do not exaggerate, and what I describe can be vouched for by every one who has been so distressfully unfortunate as to have seen them.

There are now about 300 wounded here and they are constantly arriving from the front. And how? Some limping painfully on improvised crutches, and all bedraggled and exhausted. Others, more seriously hurt, on the back of a stronger though, in many instances, sick or wounded companion, others still on horses or mules, sometimes two on one animal, which is lead by another soldier, for the riders have all they can do to hold on. Many are brought in by ambulances, however. Men came in and went out, or rather, were sent on board transports, without shoes, or coat, or blanket. One poor fellow, for instance, who was wounded in one leg, had been sent from the hospital to the landing-stage for shipment on a transport, and who had been for four hours in the broiling sun, had nothing in the world but an old worn, filthy shirt, and a pair of torn trousers. Of shoes, of course, he had none. He told me there was no one to give him anything, even if such necessities were there. There were dozens of such cases.

And the hospitals: As one in authority said, they are heart-breaking, with scores of men with wounds in every stage of neglect. This applies to those who have lately arrived from a long journey from the front (for the surgeons here are working till they drop) lying on cots, with dirty blankets under them, the passage between the wounded being covered with dirty straw. Flies are a perfect torture to the sick and wounded and there is no attempt made to protect them in any way. This condition of things, I state again, is not the fault of the surgical corps. The wounded and sick were poured in upon them before their supplies had arrived or before they had had time to utilize the materials at hand.

This fact will be appreciated when I tell you that the hospital outfit is on the "Relief" which arrived six days after the first big battle. The sight in these apologies for field hospitals is absolutely and entirely sickening and beyond words distressing. A friend told me that one of the chief surgeons, a friend of his, had at one time broken down and cried like a child at the condition of the men and the hospital which he was powerless to mitigate. I am thankful to say that things are rapidly being rectified, now that the "Relief" has arrived. She should have been here two weeks ago, and would have been were it not for the stupidity and contrariness of a War Department official. The commissary for the sick and wounded "would disgrace a camp of South-Sea Islanders," as an officer expressed it. The poor fellows will tell you, if questioned, for they never complain, that they have had nothing they could eat.

Well, so much for the hospitals here; the memory of their wretchedness will never be forgotten.

They have been sending the wounded and sick North on the different transports; a most excellent plan, but here again the absolutely unpreparedness of things has inflicted great and unnecessary suffering on the troops. This harbor is, in fact, no harbor at all. Most of the time there is a high surf running and the transporting of the wounded from the beach to the ships is only accomplished with great delay and much roughness, small boats entirely unfitted for the transportation of the wounded being used. Of steam-lighters, so urgently demanded by General Shafter, there are none; none for this purpose, at least. The men who are supposed to be ready to move or be moved, are sent to the landing-place to wait their turn to be taken to the ships and here they frequently remain hours and hours in the baking sun on the sand. It is indeed a pitiful sight. I saw to-day, any number of men, most of them more or less seriously wounded, and many of them unable to move, who cried like children when I asked if I could not do something for them. The reply most always was: "Get us on board that white ship (alluding to the "Relief"), please do, sir." I am thankful to say that now the "Relief" has gotten to work they are being taken aboard tenderly and properly cared for by the surgeons and nurses. As one poor fellow, who was terribly wounded said, "Oh, doctor, this is heavenly!"

As you know, the "Relief" is commanded by Dr. George H. Torney. He it was who fitted her out, and now directs her, and many a blessing he'll get from the soldiers and officers cared for on this ship. Our only fear is that there will be many more wounded than the "Relief" can hold. The truth is, we should have several of these hospital ships; the Government can well afford it. Whether those in Washington, who, as the Germans say, "run things from behind the green table," will, in their infinite wisdom see fit to provide such a practical blessing, while devoutly to be wished, is scarcely likely of fulfilment.

Officers from the front tell me that the condition of things along the line of battle is too horrible for words. The Spanish left their dead and wounded, many of them on the field, and the stench is something awful. Hundreds of their wounded must have died a lingering death where they fell.

The Spaniards, as you remember, did not mutilate the bodies of the Marines, as at first charged. They have not, however, respected the Red Cross, and have repeatedly fired upon the ambulances, upon wounded men on stretchers who were being carried behind the lines. It seems that sharpshooters, clad in the uniform of our soldiers, which they had stripped from the dead, were hidden in trees and, from that point of vantage, would pick off the wounded, and the hospital stewards and surgeons who were carrying them.

FRANK DONALDSON, M.D.

OUR PHILIPPINE LETTER.

GUNSHOT WOUNDS AS SEEN IN THE PHILIPPINES.

WITH ADMIRAL DEWEY'S SQUADRON, OFF MANILA, PHILIPPINE ISLANDS, June 22, 1898.

THE insurgents' headquarters being at Cavité, Aguinaldo has established a hospital in an old convent in which both his wounded and those of the captured Spaniards are treated. Considering that very great humanity on both sides has hitherto been an unknown quantity, the greatest praise should be given to the natives, not only for their treatment of captured sick and wounded, but also of their prisoners.

Two native doctors comprise the staff of this hospital, and for attendants they have several medical students who had studied in the hospitals at Manila. There are many reasons why wounds treated in this hospital should do badly. The building itself, situated in the center of Cavité and shut in on two sides, is a typical Spanish house as seen in the tropics. Thick walls of stone, with here and there a small window, keep the fierce heat of day from penetrating, but in its place it substitutes a dark, damp coolness with but little ventilation. When the hospital was filled with men who had been in the field for several weeks, having wounds discharging fetid pus, this heavy, foul air must have certainly affected the progress of healing. The depressing influence of heat, of defeat, and more especially the question at first if their lives were to be spared, are important factors in the cases among the Spaniards. It is also necessary to remember that the wet season is now here, and with it the usual fever which has complicated many of the cases. As regards food, medicine, and dressings, everything possible has been done, but all of these essentials have been limited. With so many prisoners to provide for, beside his own men, General Aguinaldo has only been able to furnish a coarse bill, with now and then a little beef and bread. Those of the wounded who had money were able to buy plenty of bananas and mangoes or a cheap wine. Dressings were at first very difficult to obtain, so that infected wounds got a good start.

A lack of surgical instruments among the doctors at the hospital was the opportunity that allowed some of the surgeons from the fleet to treat the more urgent cases, and to get a record of the remainder, consequently patients who were doing well were but superficially examined out of courtesy, and a desire not to interfere with previous treatment. The character of the bullet could only be judged from the wound of entrance, except in cases where extraction proved beyond any doubt, the majority of these being the Mauser, and several of caliber .45, probably the old Graus or Collonbaim.

Most of the men were wounded during the battle around Bakor, where more than 2000 Spaniards were repulsed in their endeavor to relieve some of their comrades besieged in a church near old Cavité. Aguinaldo placed the total number engaged in this battle at about 3500 or 4000, and claimed only 25 killed and 70 wounded, but as exact figures are hard to obtain these must be taken cautiously. The number of Spanish dead is not known, and their wounded seen in this hospital amounted to about 50. Without doubt many wounded escaped; still, making all allowances, the number disabled on both sides, for so many men engaged, was very small.

The amount of destruction that the modern rifle apparently is capable of is theoretically much greater than practical tests go to show. One naturally presumes that the greater range, velocity, and flatter trajectory, not to forget rapidity with which the bullets may be fired from these magazine rifles, would tend to cause many more wounded and killed than was the case with the old single-loader. No doubt that modern field tactics account for part of this discrepancy, and especially is this to be considered in the following cases, for nearly all the fighting between the Spaniards and insurgents, up to the present time has been by an extended skirmish line, in which the rebels, by a series of rushes, would quickly advance, sheltering themselves at every opportunity, until with a last desperate rush the Spanish position would be carried.

The following is a report of the principal cases of injury:

Gunshot Wounds of the Head and Neck.—

1. Of jaw. Bullet (Mauser) entered at inner edge of masseter muscle and lodged just back of parotid gland on the right side of face. Suppurated freely. Bullet removed. Had also a sloughing machete wound of right forearm, which produced a secondary hemorrhage that nearly exsanguinated him. Was treated by doctors in hospital with perchlorid of iron on cotton. Under ether the cotton was removed, wound cleaned of sloughs, and bleeding artery caught by forceps, but it was so much gone that forceps came off. Incision along course of radial proved the bleeding vessel to have been a muscular branch of that artery. Radial ligated above wound, and all bleeding ceased.

2. Of jaw. Native woman, shot by accident. Bullet entered just below lip in median line, producing a compound comminuted fracture of inferior maxilla, and then passed through submaxillary triangle to produce wound of exit at side of neck. A superficial cervical abscess formed with rigidity of the neck, and from the mouth protruded a piece of alveolar process with three teeth adherent, and much foul-smelling pus and saliva. Under ether Dr. Brownell removed all fragments of bone and sloughing tissue, opened the abscess, and passed a fillet of gauze from mouth out of wound in neck. Patient doing well, abscess nearly filled up, bone trying to unite in median line.

3. Of jaw. Compound comminuted fracture of inferior maxilla, splitting bone and lip down to mental process. Sloughs and granulations filling the wound. Under ether the sloughs and granulations and bone were trimmed off, and flaps freed and sutured. Operation by Dr. Broderick. Patient did remarkably well, and in ten days was able to talk a little and take semisolids.

4. Of jaw. Entire front of lower jaw carried away by fragment of shell, leaving a foul-smelling granulating wound filled with bits of bone, teeth and sloughs, extending nearly to hyoid bone. Under ether Dr. Brownell removed all bits of bone and slough, trimmed down flaps, and brought together with silver sutures. A secondary etherization was necessary to put in additional sutures to prevent flaps from tearing apart. At the end of ten days patient was doing well, and there was but little discharge of pus on the daily dressing.

5. Right temple. Attempt at suicide, but pistol was pointed too far forward. Bullet removed just beneath skin on forehead.

6. Parotid region. Mauser bullet entered middle of parotid gland on right side, and going beneath zygomatic arch entered orbit, destroying right eye, and producing a compound comminuted fracture of orbital plate and frontal bone. It passed directly through frontal sinus to exit in middle of forehead. Under ether, the right eye (what was left of it) was removed, wound-track cleansed and irrigated, and from parotid gland to orbit a heavy silk suture was passed for drainage, while a rubber tube was placed through wound of frontal sinus to orbit. Previous to this operation it had been necessary for me to remove the left arm at the middle of the humerus, because of a beginning gangrene from a compound communited fracture of elbow-joint. Amputation stump healed kindly, but the wound of the head suppurated freely, even with constant irrigation and dressing. At time of removal to Manila he was very weak and in a bad condition.

In addition there were five cases of superficial injury.

Gunshot Wounds of Chest.—

1. Left chest. Ball (Mauser) remains. Entered just above the heart, and a forming abscess over left scapula probably denotes its location at present.

2. Right chest. Hemoptysis and death.

3. Right chest. Ball remains (Mauser). Also muscle wound of left arm. No fracture.

4. Left chest. Ball remains (Mauser).

Gunshot Wounds of Abdomen.—

1. Through liver. Ball entered at seventh interspace, mammillary line, and came out at the back. Patient up and about June 15th, and both wounds healed.

2. Left gluteal fold, exit two inches on the right of the umbilicus (Mauser).

3. Through abdomen and descending colon (Mauser).

4. Crest of left ilium.

5. Left ilium.

6. Superficial wound of right side from bit of steel jacket of bullet about the size of a finger-nail. Its ragged edges tore a large hole in skin, just beneath the liver, and then it buried itself in muscle from which it was easily removed.

Gunshot Wounds of Upper Extremities.—

1. Right forearm, with compound fracture of ulna (Mauser). Did very well after it was put up in anterior and posterior splints with "window" for wound to be dressed.

2. Left arm. Bullet brushed across left breast producing a superficial wound. It then entered inner side of left arm, fracturing the humerus, and coming out at front of the arm. When first seen the wound was full of pus, but simple irrigation and putting up in splints, with daily packing of iodoform gauze, was able to save the arm. Patient doing well at time of transfer.

3. Right hand; superficial wound at dorsum, cutting the extensor tendons, and producing wrist-drop. Wound dressed, and hand placed on a straight palmar splint.

4. Right elbow, ball (Mauser) entering on outer side of arm above elbow, and after shattering joint, produced a large, sloughing wound of forearm, with great swelling and infiltration. Under ether the arm was amputated by Dr. Brownell at junction of lower and middle thirds. Amputation wound suppurated and partially sloughed, but at time of transfer he was doing well, with wound nearly closed.

5. Right elbow; ball tore across tip of olecranon process, shattering the bone, and producing a large, sloughing wound, but not opening the joint. Wound dressed and put up with internal angular splint.

6. Left arm; compound comminuted fracture of upper third of humerus, with free suppuration, and the arm badly swollen. Under ether Dr. Brownell amputated at shoulder-joint. Patient had severe shock after the operation, but soon rallied, and at time of transfer the wound was nearly healed.

Ten other wounds of the upper extremity, received for the greater part from Mauser bullets, were superficial in character, and the patients have made rapid recoveries.

Gunshot Wound of Lower Extremities.—

1. Compound comminuted fracture of femur (left) at trochanters. Attempt made to save leg, but having been badly put up, even if it had been a single fracture, it would not have healed. Under ether the thigh was amputated at joint by Dr. Brownell, and patient rallied well from operation. He died the next day (June 11). Examination of bone showed an extensive comminution (Mauser).

2. Right buttock; sinus explored under ether, and the ischium was found to have a cleanly cut perforation. No symptoms of injury to pelvic viscera. At the end of five days an abscess was indicated over buttock that discharged of itself, carrying a Mauser bullet with the pus. He had, also, a superficial wound of entrance and exit on the same leg from another bullet.

3. Head of tibia. Ball entered just above fibula, and crashing through cancellous tissue of head of tibia, split off a spiral fragment on inner side. An osteomyelitis suppurativa resulted, and a purulent synovitis followed, with swelling of leg and bogginess of knee-joint. Under ether the thigh was amputated at junction of middle and

lower third. When the anterior cut through the muscles was made, a pus-pocket was opened in the muscles where the purulent synovitis had extended under quadriceps tendon. This was cut out of flap, and operation finished according to usual methods. Suppuration occurred, but patient was doing well at time of transfer. Operation performed by Dr. Brownell.

4. Left thigh. Compound fracture. Had been placed in faulty position; this was corrected, and extension was applied. Wound (Mauser) leading to bone ran from upper and outer side of thigh to middle and inner side.

Eighteen superficial wounds of the lower extremity were also reported in addition to those above detailed. The patients have made good recoveries.

In the above cases the predominance of wounds of the extremities cannot fail to attract attention. Without doubt many of the killed received injuries to the head, abdomen, or chest. Still, this explanation will not answer for the discrepancy, and it seems rather to be due to the manner of fighting, in which every tree, bush, or rock furnished a means for protection to head and trunk. Arms and legs are more difficult to conceal, and several of the wounded told me that in that way they had been shot. This excess of gunshot wounds of the extremities I found to be true among the wounded Greeks, in the hospitals at Athens, when I visited them last summer just after their war with the Turks. The manner of fighting had been similar to that in the Philippines.

Another curious feature among the above cases is the ease with which a muscle in contraction, or any slight obstruction, will change the course of the new bullet. This was a common fact in regard to the old soft bullet, but experiments on the cadaver with the steel-jacketed bullet seemed to show a clean perforation of all tissues, including bone. This was only found to be true in one case as regards bone, all the others being fractured.

The scarcity of secondary hemorrhage is remarkable considering the number of suppurative wounds.

The amount of shock is not to be accurately estimated, because of the lapse of time before the men reached the hospital. After the operations, in which the patient was generally under an anesthetic an hour, it was a curiosity to us all to see the rapidity with which they would rally, and soon call for the inevitable cigarette. The pulse indicated considerable shock in most severe cases, but several of the men were better afterward than before.

In connection with the gunshot wounds there were several cases of troublesome machete wounds, because of the nasty sloughs that would occur. The machete is a short sword with a heavy back, and enters the tissues more by its weight than keenness, and in so doing bruises the tissues. There were twelve of these wounds altogether, involving, for the most part, the head and upper extremities.

The final results of all the cases here detailed will not be known, as most of the men were transferred to Manila on June 19–20th, under the Red-Cross flag, by the permission of Aguinaldo. The hospital contains at the present time only a few men down with fever and the insurgent wounded. Most all of those wounded in the lesser engagements during the month have been divided between three other hospitals, which the insurgents have in smaller villages.

In conclusion, the possibilities of the campaign of our troops show that even in this hot, moist climate severe suppurating wounds may heal kindly. What such wounds will do if properly handled from the first yet remains to be seen. That so many of the Spaniards had fever points to what we may expect among our soldiers.

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MEDICAL PROGRESS.

Thrombosis of the Mesenteric Veins.—KOESTER (*Deut. Med. Wochenschr.*, May 26, 1898) puts on record three cases of thrombosis of the mesenteric veins, a rare affection and one about which little has been written. The resulting gangrene in one case affected the large intestine and in the other two a part of the small intestine. The symptoms were similar to those of a case of embolism of the mesenteric artery, also recorded by Koester. All of the patients died. If operation was attempted it was seen to be hopeless as soon as the belly had been opened. By comparing the symptoms in these cases with those of the ten previously recorded by different writers it is possible to draw a fairly clear picture of the disease. The patient may be attacked suddenly in perfect health, or he may be recovering from some severe illness. There is invariably intense abdominal pain with vomiting and often stoppage of the bowels and collapse. The abdomen is extremely tender, and if the patient outlives the shock, tympanites follows. In a few instances there has been a bloody diarrhea. Death is not long delayed. Sometimes it comes in a few hours. In one case it was delayed for three days. At autopsy a bloody fluid will be found in the peritoneal cavity, thrombosis of a part or all of the mesenteric veins, bloody infiltration of the corresponding mesentery and intestine, or a gangrene of the latter, according to the duration of the trouble. In only two cases has the large intestine been the seat of the thrombosis.

One can only guess at the origin of the thrombosis. Sometimes the mucous membrane of the intestine has been found to be ulcerated; sometimes it has been intact. Some writers have said that the thrombosis is caused by a slowing of the portal circulation owing to existing cirrhosis of the liver or cancer of that organ; but if this is an adequate cause it is difficult to explain why it so infrequently occurs, while these hepatic troubles are so common.

The diagnosis is not to be made with absolute certainty during life. The affection can readily be confounded with acute ileus, or a perforative peritonitis, or even with an invagination, if a distinct tumor does not point clearly to the latter trouble. The most characteristic symptom is the accumulation in the peritoneal cavity of a bloody fluid in a short time, the symptoms above described being present, and malignant disease and tuberculosis being excluded.

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SATURDAY, AUGUST 6, 1898.

CRIMINAL INCOMPETENCY IN THE ARMY—PROMPT ACTION DEMANDED.

THE startlingly brilliant events which have characterized the present war with Spain have provoked the comment that we, as a nation, are making history fast, and we have laid the flattering unction to our souls not only that we are making it fast but that we are writing it in letters which are large. It must not be forgotten, however, that the facts upon which the philosophy of history depend are frequently found in the foot-notes. The foot-notes which will ultimately determine the picture of this war are now rapidly coming in. First, the "Seneca," with its mortifying tale of wretchedness and incompetency; then the "Alamo," with its confirmation of all that the "Seneca" presaged, and finally the "Concho," which bears its testimony of reckless incompetency and seals the judgment of the Nation that the glory of our arms in battle has been sullied by incompetency due to political favoritism at the seat of government.

The sad record of these transports has called attention to the condition at the front, and we find that the story of the neglect of the sick and wounded does not begin with the log of these vessels, but, commencing with the fighting men in the trenches, who were illy supplied with even the plainest army rations, back to the dressing-stations and the field hospitals, all the way down to the permanent hospitals on the coast, we find the dark trail of incompetency, lack of organization, and absence of the commonest precautions against the casualties which attend a military invasion. In reviewing the events of this brief campaign, there appears to be an utter lack of administrative ability, and the conduct of affairs, instead of being characterized by military precision and discipline, shows a degree of disorder and confusion amounting almost to chaos. The responsibility for this seems to lie wholly at the door of him who placed a sick man in command of this campaign, and supported him with quartermasters and commissary officers who were unequal to their duties. Every one, both wounded and sick, as well as observing civilians and commanding officers, testify to the indomitable devotion to duty and capacity for work shown by the army surgeons in their efforts to care for the sick and wounded. In their emergency-chests, which the army surgeons themselves had sufficient foresight to insist should go with them everywhere, stimulants, antiseptics, first-aid dressings, and surgical instruments were at hand to enable them to do their surgical work and meet pressing emergencies. Chief-Surgeon Senn testifies to the fact that he personally operated in all the field hospitals and always found the essential antiseptics and dressing-material required in military practice. "At no time was there lack of stimulants or anesthetics." It was after the surgeons and the dressers had done their work that the shameful neglect began. Tents and blanket supplies were inadequate. It is true that many of the wounded soldiers arrived at the field hospitals stripped of much of their clothing which had not been replaced after passing through the hands of the field surgeons at the bandaging stations just back of the battle line, where the clothing was removed for the purpose of examining or treating wounds. The supply of extra clothing and blankets was quickly exhausted and many of the wounded soldiers were obliged to lie all night on the wet grass and water-soaked ground half-naked as they were.

That the medical arm of the service is not responsible for this condition of affairs is completely estab-

lished by the letter of Surgeon-General Sternberg which we publish in another column.

But such events must not be allowed to continue. The pressing duty of the hour is to determine wherein the responsibility rests and to correct with prompt and impartial hand the errors and mistakes which have made it possible for such things to occur. Crimination and recrimination between the various departments of the army will not suffice. Let it be understood at once by as stringent a mandate as the President can pen (for we must go behind the tin soldiers and ambitious politicians to some power that can be trusted) that what has happened is the last blunder that will be endured. Let the country have the assurance, by the appointment of men of experience to important positions of trust, that competency has taken the place of incompetency and that devotion to duty has supplanted self-interest and political preferment.

The Porto-Rican campaign gives promise of a bloodless and triumphal march to victory, but in spite of this fact and in the face of impending peace, in order to satisfy the clamor of volunteers and their friends for service at the front, General James F. Wade has been ordered to conduct a provisional division of fifteen regiments of infantry to Porto Rico, although there is no ground of military necessity or high political expediency to justify such a move. The only explanation is to be found in the desire of the Secretary of War to give the several States of the Nation representation in the field. If men are so anxious for military experience and transports are available for so large an army, let them be used in assisting our sorely afflicted men at Santiago, and thus permit the latter to be brought home and recuperated. If properly conducted, fresh troops can be landed and placed in garrison with comparatively little danger. The War Department would be fulfilling its mission better if it directed its attention to such details at the front, instead of keeping so watchful an eye on the political situation at the rear.

YELLOW FEVER IN THE ARMY. WHO IS RESPONSIBLE?

UPON the outbreak of hostilities it was distinctly announced by those most competent to judge that the great danger to our troops in Cuba did not reside in the Mauser bullet or the Spanish guns, but in the diseases which were endemic in the island, and especially yellow fever. It was recognized, however, that if the troops could be located upon the hills, with entire absence of communication or intercourse with the inhabitants of the towns, the danger of yellow fever would be reduced to a minimum. For the scene of a campaign which would be immune to yellow fever, the vicinity of Santiago afforded one of the most perfect battle grounds in all the tropics. The essentials of success in this particular are (1) high elevations, and (2) a complete quarantine against the towns. Weeks and months have been spent at the mobilizing camps in instilling the fact that these two principles constitute the A B C of prevention against yellow fever. The first essential was attained by bringing the campaign to a conclusion with the utmost despatch, so that the troops could be withdrawn at as early a period as possible into healthful camps upon the hills. The second principle, however, was violated with a degree of neglect and inattention that was little short of criminal.

Now that attention is withdrawn from the actual fighting and an analysis is being made of the conditions existing during those exciting days in the rear of the firing lines, it is discovered that sympathy for the reconcentrados entirely supplanted consideration for our own troops. Barriers of defense against the infected Cubans were broken down, and the hordes were allowed to spread the germs of disease throughout the entire army. It is asserted as a fact by Mr. H. L. Beach, an Associated Press correspondent, that he saw the army ambulances used to haul the sick and squalid refugees who were tramping through the mud from the front to the rear so that they might get food, these same ambulances also being used indiscriminately for transporting the sick and wounded from the dressing-stations and field hospitals. But worst of all is the fact that the commissary wagons were constantly going from Siboney loaded with supplies and returning loaded with refugees. It is a fact that no yellow fever appeared in the army until the lines were opened to these people from Santiago.

From another source comes the startling assertion that the yellow-fever epidemic in the army is chargeable directly to the Red-Cross officials. Mr. William Gray of Washington, microscopist of the Army

Medical Museum, on duty aboard the hospital-ship "Relief," is reported in the New York *Sun* as asserting that the Red-Cross people instead of confining themselves to distributing food among the Cubans, as they had been instructed, opened army hospitals under the charge of the Red-Cross surgeons in the Cuban houses or huts at Siboney, and it was among the troops exposed in these Red-Cross hospitals that yellow fever made its appearance. The responsibility for this unfortunate condition seems to lie with the commanding officers or their medical advisers. The hordes of refugees should have been regarded as a pestilence, and compelled at the point of the bayonet to keep within quarantine bounds. That the first orders to burn Siboney should have been disregarded, and native houses within its limits taken as hospitals, indicates a lack of discipline for which some one should be held to strict account.

TYPHOID FEVER IN CAMP.

THE prevalence of typhoid fever in the various mobilizing camps is a source of great concern. It is likewise a serious reflection upon the sanitary authorities who are responsible for the health of these camps. In the whole list of common diseases there is not one which is so thoroughly understood as typhoid fever. The cause of the disease, the channels of its communication, and the means of prevention are so intimately known that its prevalence among a body of men is at once a proof that some one has blundered. This is not a pleasant reflection when we consider that typhoid fever has found its way into every National camp of instruction, and, what is more, has gone with the troops to Cuba and at the present time is responsible for more deaths among the soldiers in front of Santiago than any other single disease. Only two channels of infection need to be watched, *viz.*, the water-supply and the milk, and more especially the former. At Camp Alger, located near the very seat of our Government at Washington, infection occurred early and its march has been constant and rapid until deaths have been reported very frequently. The camp at Jacksonville is passing through a similar experience, as are those at Tampa and Miami. Camp Thomas, at Chickamauga, a great National Park, affording every facility for a perfect camp, has not escaped the contagion. The action of the Government in abandoning these camps and seeking new ones, even at great expense and trouble, is a credit to its humanity, but its should never have been necessary.

A circular letter and brochure, recently issued by the National Relief Committee, though not intended for that purpose, is a severe arraignment of the sanitary authorities. As it says, it may be clearly held to-day that the sacrifice of men, either at home or abroad through the ravages of water-borne diseases is, as a rule, not only discreditable, but is unnecessary and, therefore, unjustifiable. Not only is this committee insisting that all water used by soldiers should be boiled, but is making it easy to provide the soldier also with water that has been submitted to aeration afterward, thus rendering it safe and potable, as well as grateful to the palate.

ECHOES AND NEWS.

The King of Spain Ill.—Special despatches from Madrid report the little king, Alphonso XIII., ill with a mild attack of measles.

The American Electro-Therapeutic Association. — The Eighth Annual Meeting of this Association will be held September 13, 14, and 15, 1898, at Buffalo, New York. Dr. Charles R. Dickson is president of the association, and Dr. John Gerin of Auburn, New York, secretary.

American Climatological Association.—The fifteenth annual meeting of this association will be held at the Maplewood Hotel, near Bethlehem, N. H., on August 31 and September 1, 1898. President, Dr. E. O. Otis of Boston; Secretary, Dr. Guy Hinsdale, of Philadelphia.

A Second Hospital Ship for the Army.—The steamship "Missouri" has been purchased by the Government, and will be immediately equipped as an army hospital ship as a companion to the "Relief." She will be in charge of Major Wm. H. Arthur, Surgeon United States Volunteers, who has been appointed chief-surgeon.

The Disgrace of the "Seneca" Surpassed.—The account of the cruise of the transport "Concho" from Santiago to New York presents a scene of horror which surpasses the mortifying description of the voyage of the "Seneca" and calls for decisive action. An impartial and searching official investigation should be ordered at once.

New York Summer Corps of Physicians.—The New York City Board of Health has appointed the usual summer corps of thirty-eight physicians. The greater part of these were promoted from the corps of school inspectors, and the balance from the civil eligible list. They will receive a salary of $100 per month, and the term of service will expire on September 10th.

Dr. Skinner Shot.—Dr. Erasmus D. Skinner of North

Hempstead, L. I., was aroused from his bed Wednesday night, July 27th, shortly before midnight, and shot by a stranger who pretended he wanted the doctor to call on a sick woman. It is thought by the physicians in attendance that Dr. Skinner will recover, nothwithstanding the fact that he is 60 years old.

A Soldier Dies of Home Sickness.—In a recent dispatch to the Adjutant-General of the army, Gen. Shafter states that a private in the Second Massachusetts Volunteer Infantry had died of nostalgia, or home-sickness. It is stated that during the recent Civil War there were hundreds of deaths from this cause, but this is the first to be reported during the present campaign.

The Tropical Climate Inimical to the Use of the Fluoroscope.—Major Torney, the surgeon in charge of the hospital ship "Relief," reports that the static X-ray plant, installed by the Government on the ship, could not be used in the tropics owing to the atmospheric conditions. The only X-ray plant that had been of any service was the one presented to the ship by the General Electric Company.

The Mississippi Valley Medical Association.—The twenty-fourth annual meeting of this association will be held at Nashville, Tenn., October 11, 12, 13, and 14, 1898, under the presidency of Dr. John Young Brown of St. Louis. Dr. Henry E. Tuley of Louisville, Ky., is the secretary. The annual address on medicine will be delivered by Dr. James T. Whittaker of Cincinnati, and that on surgery by Dr. George Ben. Johnson of Richmond, Va.

The Sanitation of Porto Rico.—General Wilson has been appointed by General Miles Governor-General of Porto Rico with headquarters at Ponce. His first official act was to organize a sanitary corps, and at the head of this he has placed the surgeon-in-chief of his staff, Dr. John McGaw Woodbury of New York. No better selection could have been made. Major Woodbury's reputation for promptness and thoroughness insures the future excellent sanitation of the island.

Hospital Reports from Santiago. — The latest returns from Santiago announce that there are 4280 sick in the hospitals, about one-fourth of the entire command. Of these more than 3000 are suffering from typhoid, malarial, and yellow fever. The last-mentioned disease is of mild type and most of the victims recover. The greatest mortality occurs among the cases of typhoid and malarial fever. About 500 or 600 new cases occur daily and an equal number of convalescents are being discharged.

Appointments in the Marine Hospital Service.—The Board of Medical Officers of the United States Marine Hospital Service recently convened in Washington for the examination of candidates for appointment as assistant-surgeons in the Marine Hospital Service has submitted its report. Twenty-four physicians appeared for examination, of whom five were successful in attaining the required average, and are eligible for appointment. There are at present two vacancies and the two men receiving the highest average will be recommended to the President for immediate appointment.

All Transports Must Have Army Surgeons.—By order of Surgeon-General Sternberg every army transport ship hereafter will have assigned to it an assistant-surgeon of the army, and must carry hospital stores. It is said that the reports concerning the character of the accommodations and the food furnished the sick and the wounded on board the transports "Olivette" and "Seneca" during their recent trips from Cuba have occasioned this new regulation. Formerly doctors from civil life have been assigned to transports upon which the wounded and sick were carried. The new order of the Surgeon-General relieves them from further duty.

Dr. Wood Military Governor of Santiago.—Dr. Leonard Wood, who, at the beginning of President McKinley's term of service, went to Washington as his family physician, has recently been promoted to be Brigadier-General and Military Governor of Santiago. At the beginning of the war, Dr. Wood enlisted as a volunteer, and went to the front as Colonel of the Rough Riders. It is a source of congratulation to the city of Santiago, as well as to our own Government, that a man possessing such eminent qualifications as a sanitarian, should be appointed to the responsibility of Military Governor at this time.

Investigation of the "Seneca" Incident Surpressed.—It is currently reported that the investigation demanded by Surgeon-General Sternberg into the responsibility for the shameful cruise of the transport "Seneca" is being surpressed. It is certainly to be hoped that this is not true. Such an outcome would be most unfortunate and assuredly a mistake. In a very short time representatives of foreign nations who were on the "Seneca" will reach home, their mouths will be unsealed and then the whole story will come back to this country, and the last state of the parties responsible for any suppression of the truth will be worse than if they had frankly allowed all the facts to be known.

The Marine Hospital Service and National Quarantine.—The advantage of having the quarantine of the country under National control so that the rules may be uniform, and prompt and vigorous measures enforced at all points, is being constantly illustrated during the present war. The fact that the Marine Hospital Service is a department of the General Government has enabled Surgeon-General Wyman to cooperate readily with the Army and Navy Departments in his efforts to prevent the invasion of yellow fever from Cuba. At the present time, there is imminent danger of yellow fever being brought to this country and making its entrance at various ports, from Portsmouth, N. H., where the Spanish prisoners are quartered, throughout the whole extent of the Atlantic and Gulf coast, as far as Galveston, Tex. By the cordial cooperation of the Army, the Navy, and the Marine Hospital Service, in establishing uniform quarantine, the dreaded disease has not, as yet, gained foothold upon our territory.

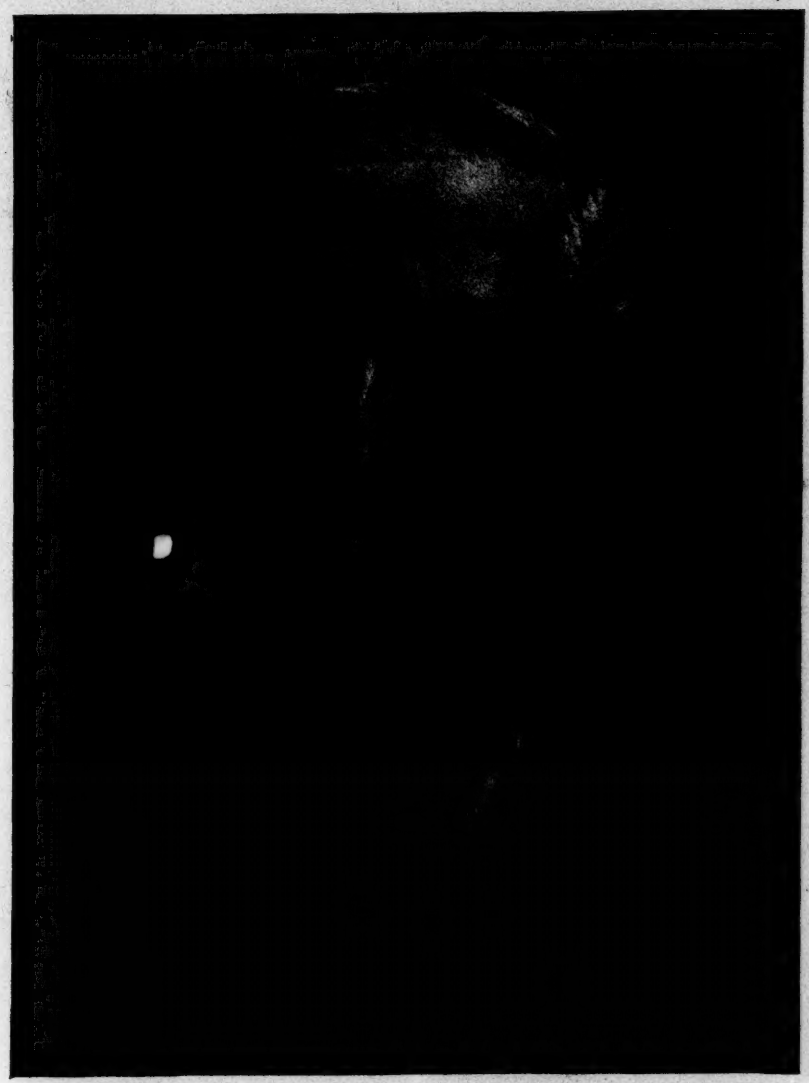

Photo. May, 1898. Meynen, Phila.

WILLIAM PEPPER, M.D., LL.D.

OBITUARY.

DR. WILLIAM PEPPER.

DR. WILLIAM PEPPER of Philadelphia died July 28th at Pleasanton, Alameda County, California, from acute heart failure, the direct result of overwork.

William Pepper, formerly Provost of the University of Pennsylvania and one of the most eminent physicians of the country, was born in Philadelphia on August 21, 1843. He was graduated from the University of Pennsylvania in the class of 1862, and from its Medical Department two years later. Dr. Pepper entered at once the practice of medicine and gained distinguished success in his profession. He was Lecturer on Morbid Anatomy in the university from 1868 to 1870, and on Clinical Medicine from 1870 to 1876, and professor of the latter subject from 1876 to 1887, when he was elected to the Chair of the Theory and Practice of Medicine, to succeed Dr. Alfred Stillé. He continued to hold that chair until his death.

In January, 1881, he was elected Provost of the University. Under his administration the institution developed along modern lines as never before. In 1881 the

Wharton School of Finance and Economy was founded; in 1883 a department of veterinary medicine was added; the foundation of a school of biology and the establishment of a department of physical culture followed in 1884; the school of American history and a department of archeology and paleontology were added in 1891, and the department of hygiene was founded in 1892. These rapid advances were largely due to Dr. Pepper's personal efforts.

Dr. Pepper had one of the largest practices in the country, and he continued to attend to it in addition to guiding and molding the general policy of the university and the development of the numerous constituent schools. He also regularly continued his literary work. He founded *The Medical Times*, and was its editor in 1870 and 1871. His most important work was the editing of "A System of Medicine by American Authors," published in 1885-1886. He was a constant contributor to medical journals, and published many books and pamphlets on medical and scientific subjects.

Dr. Pepper was medical director of the Centennial Exposition in 1876, and for his services received the decoration of Knight Commander of the Order of St. Olaf from the King of Sweden. He was largely instrumental in founding the Pennsylvania Museum and School of Industrial Art. He was a Fellow of the College of Physicians, a member of the American Philosophical Society, President of the American Climatological Society in 1886, and held the same office in the Association of American Physicians in 1891, and was elected first-president of the Pan-American Medical Congress, which met in Washington in 1893. In 1881 he received the degree of LL.D. from Lafayette, and again from Princeton in 1888.

Feeling that his multifarious duties were too great a burden he resigned the provostship of the university at the commencement of 1894. At that time the facts were brought out that not only had Dr. Pepper suffered a loss in his income as a physician by the time given to the university, but also that he had declined to accept any salary as provost. Moreover, he had at that time made contributions to the university amounting to from $20,000 to $30,000 a year. He accompanied his letter of resignation with a gift to the university of $50,000 toward a fund for the extension of the university hospital. During his term as provost the value of the university property rose from $1,000,000 to $5,000,000; its teaching force increased from 88 to 268, and the number of students from 980 to 2180.

CORRESPONDENCE.

THE MEDICAL DEPARTMENT OF THE ARMY —LETTER FROM GEN. STERNBERG.

To the Editor of the MEDICAL NEWS.

DEAR SIR: I regret that the pressure of official duties makes it impossible for me at present to make a full reply to your recent letter of enquiry, or to the strictures published by a leading medical journal, condemning the Medical Department of the Army, without a hearing, upon the reports of newspaper correspondents. I will, however, take time to state a few facts.

The number of medical officers allowed by law is inadequate in times of peace. The total number allowed is one hundred and ninety-two (192). There are at present thirteen (13) vacancies. The administration of the Surgeon-General's Office and the Army Medical Museum requires six (6). Eleven (11) are on duty at Medical Supply Depots and as Chief Surgeons of Military Departments. One (1) is at the Soldier's Home; fifty-six (56) at General Hospitals, on Hospital Ships, and at garrisoned posts. Four (4) have been disabled during the war by sickness. Five (5) are on duty as Chief Surgeons of Army Corps. This leaves ninety-six (96) medical officers available for duty with troops in the field. Of these, thirty-five (35) have been appointed Brigade Surgeons of Volunteers and are distributed among the various Army Corps.

This deficiency in regular medical officers has made it necessary to employ nearly three hundred (300) contract surgeons, and more are being employed every day. Most of these doctors from civil life are doing good service, and many of them are thoroughly well-equipped physicians and surgeons with ample hospital experience; but it has been impossible to make a careful selection owing to the great pressure of business in the Surgeon-General's Office, and the urgency has been so great that it has not been practicable to have Examining Boards to pass upon their qualifications.

General Shafter's army at Tampa was thoroughly well supplied with the necessary medicines, dressings, etc., for field service, but owing to insufficient transportation he left behind at Tampa his reserve medical supplies and Ambulance Corps. Every one who has read the papers knows about the difficulties encountered in landing supplies at Siboney. As is usual under such circumstances, the fighting men with their guns and the rations necessary for their subsistence were first landed and hurried to the front. The "Relief," loaded to her utmost capacity with medical supplies, arrived at Siboney four days after the fight at El Caney. That she was not able to get there sooner was a great disappointment to me, but was no fault of the Medical Department. I asked for a hospital ship in good time, but there was unavoidable delay in securing a suitable vessel and in preparing her for service.

It has not been the expectation of the Medical Department that every wounded man would immediately receive the attention of a surgeon. No modern army makes provision for so large a number of medical officers as this would require. But attached to our Army there is a corps of non-combatants known as the Hospital Corps, which is the organized and authorized Red-Cross Corps of the Army. At the outbreak of the war we had eight hundred Hospital Corps men in service. At present there are more than 4000. These men wear a brassard upon the left arm bearing the Red Cross of the Geneva Convention. We have done our best to instruct them in giving first aid to the wounded, and in a majority of cases a first-aid dressing properly applied by one of

these men is all that is required. All of the surgeons who have come from the front have testified to the remarkable results attained from the prompt application of aseptic dressings by our Hospital Corps men and by the soldiers themselves, or their comrades. The proper application of the dressings contained in the first-aid packet, which is carried by every soldier, is, under existing regulations, a matter in which every enlisted man has special instruction. For some time past this instruction has been given first by our medical officers to the company officers, and by them to the enlisted men.

My position with reference to the inadvisability of sending female nurses to our camps of instruction, or with our armies in the field, has given great offense to some members of the Red-Cross Society, and it is evident that the unjust attacks which have been made upon me, and upon the Medical Department of the Army result largely from the stand I have taken in this matter. I have gladly accepted the assistance offered us in the way of delicacies for the sick, etc., and we have now a large number of trained female nurses on duty at our general hospitals where they are giving great satisfaction, but I see no reason to change my views with reference to the sending of female nurses with our troops in the field. They are an incumbrance to an army mobilized for active operations. This objection does not apply to the sending of immune female nurses for service in our yellow-fever hospitals near Santiago, and I have already sent nearly one hundred.

The first-aid dressing is to be put on at or near the firing line, and the men have usually to be transported to the field hospitals on litters. In this age of aseptic and conservative surgery, comparatively little operating is required, and our regular force is ample to attend to this. Moreover, we have men selected for their experience and skill to decide whether operations are necessary, and to perform them. I have never objected to the surgeons and ambulances of the Red-Cross Society going to the field for the purpose of rendering any necessary assistance, but, in my opinion, they should be independent as regards transportation, and should not call upon the Government for assistance in getting to the field of operations. If there has been any failure to get necessary supplies to Cuba it has been because of the difficulty of securing adequate transportation, and of landing supplies through the surf; but we have been constantly importuned to transport Red-Cross agents and female nurses to the front. I am informed that many of these so-called nurses had never received any special training to fit them for the duties they were so eager to undertake. The National Red-Cross Society should have been entirely independent of Government transportation if it expected to fulfil its proper function of affording aid to the wounded of both armies, in accordance with the terms of the Geneva Convention.

As regards the "Seneca," I am informed by Major Torney, in charge of the hospital ship "Relief," that he transferred forty-two (42) wounded men, most of whom were entirely able to take care of themselves, from the "Relief" to the "Seneca" because at that time it was expected that our troops would storm Santiago, and that a large number of wounded would be sent to the hospital ship for treatment. For the same reason a certain number of convalescents were sent from the shore hospital. Two acting-assistant surgeons were sent on board with a supply of the most necessary medicines and dressings. The wounded who were sent by the "Seneca" were nearly all able to walk and take care of themselves, and required comparatively little attention. The statement that no medical supplies were sent with them is false. No doubt there was some deficiency, and some discomfort upon this overcrowded ship, but the Medical Department is in no way responsible.

Finally, I would say that when the medical officers now at the front return home I expect to have full information with reference to the efficiency of the medical service in the vicinity of Santiago, and in the meantime I hope that the profession at large will not be so ready to draw inferences unfavorable to the Medical Department of the Army on the basis of reports published in the daily papers as the editor of the *Medical Record* has been.

Very respectfully,

GEO. M. STERNBERG,

Surgeon-General, United States Army.

WASHINGTON, D. C., August 2, 1898.

OUR FOREIGN LETTER.

[From Our Special Correspondent.]

KOCH ON THE SPREAD OF THE BUBONIC PLAGUE—AN ENDEMIC FOCUS OF THE DISEASE IN UGANDA ON THE SHORES OF VICTORIA NYANZA—NO FURTHER DANGER TO CIVILIZATION FROM PLAGUES—LEYDEN ON HEART-NERVES—THE HEART AS AN INDEPENDENT MUSCULAR AGENT.

BERLIN, July 27, 1898.

PROFESSOR KOCH'S talk before the Berlin branch of the *Deutsche-Gesellschaft für offentliche Gesundheitspflege* (German Society for the Care of Public Health) was the medical feature of the week here, and was attended by some 500 medical men. It was followed by a banquet in honor of the guest of the evening. Truly the Germans know how to honor their distinguished medical men, and do it with most commendable cordiality, without requiring them to have shuffled off this mortal coil before the honors come.

Some decenniums ago, Koch said, the plague seemed to have lost the epidemicity which had so fearfully characterized it in history. We heard of isolated, or even groups of cases in the distant East, but the scourge seemed to have lost its power to spread beyond the limited area where unhygienic surroundings had fostered it into passing virulence. But about five years ago came the rude awakening from this false security into which Europe had been lulled. There came the news of its ravages in India, then it appeared in Persia, finally in 1894 it was reported on the Chinese coast, and as Hong Kong, in whose neighborhood it appeared, is in intimate commercial relations with the civilized world there arose the dread of an invasion. Those who knew something of the history of

this terrible scourge of Europe and Asia in the past feared for the present. Then two years ago it appeared in Bombay, and some cases got to Suez, and even two cases turned up in London, so that fears were not ungrounded.

Study has shown that it is the old plague, and has enabled us to know its characters. Its pathologic anatomy is now known, and Kitasato and Yersin have found its bacterial cause. The study of the disease in rats has at once substantiated the identity of the modern with the antique plague, and confirmed the old tradition with regard to its fatality in these animals. The disease would really seem to be a rat, not a human, disease, attacking these animals, usually so intensely resistent to all disease, on the slightest exposure, and raging among them with the greatest virulence, only attacking men at times when special circumstances have made the virus specially infective.

We have found that, knowing the exact bacteriology of the disease, sanitary regulations will be effective in protecting other countries from invasion. The main interest, then, has centered in the discovery of the places where epidemics originate, for it is clear that there is not a rebirth of the contagium each time that the plague arouses attention, but that it is almost certainly endemic in certain localities, successive cases of it occurring more or less sporadically, and finally leading under favorable circumstances to an epidemic.

Some of the places where plague is endemic are well-known. There is evidently a persistent focus of the disease some place in Mesopotamia between the Tigris and Euphrates Rivers from which some of the earliest epidemics of the plague in history came, but which would seem not to have gone out, even down to our day. The Indian epidemics of the plague would seem to have come from the country lying near the Himalayas, especially in the western part of the Chinese Empire in Thibet. A third plague-spot, in the literal sense of the word, evidently exists south of Mecca on the Arabian shores of the Red Sea from which, through the medium of the Mohammedan pilgrimages, a number of epidemics of plague have been called into existence.

While in German East Africa, Koch found that a fourth focus of plague, a locality in which, according to the natives and missionaries, the disease has been endemic for so long as there is any tradition, exists on the northern shores of Lake Victoria Nyanza in Uganda. His attention was called to the fact by the occurrence in Kisiba, the most northwesterly district of German East Africa, of certain suspicious cases. At his request an army medical man investigated the disease directly in the infected district, and sent the specimens of a number of cases to Koch, on the coast three-month's journey away. The specimens were in excellent condition when they arrived, and Koch came to the absolute conclusion that genuine plague was endemic at least in this part of Central Africa.

From here he thinks that certain epidemics have gone down the valley of the Nile, and so invaded Europe. The otherwise inexplicable epidemic of the disease at Tripoli in the Seventies probably had its origin in some such way as this. This plague-spot is in the progress of civilization gradually becoming not so segregated as it was. Caravans often come from this district, and the English in British East Africa are engaged in building a railroad from the coast into this Victoria Nyanza district of Uganda, which will be completed in two years, and will still further add to the danger of the importation of the disease into Europe.

There is really no need for alarm, however, for knowing the exact bacteriology of the disease as we do, we can be perfectly confident that our sanitary precautions will suffice to prevent invasion. This definite knowledge of the localities from which invasion may be expected will prevent us from being taken by surprise, and modern medical science can look with justifiable self-congratulation upon the advance in medicine which has enabled us to absolutely rule the dread disease which so often devastated Europe.

At a recent meeting of the Society for Internal Medicine, Professor Leyden discussed the question of heart-nerves, and rather surprised his audience, I think, by showing that he has adopted the physiologic opinion which has been gaining ground recently, that the nerve-fibers demonstrable in the heart so plentifully are not motor but sensory, and that the heart-muscle is itself essentially motor, containing in its vital qualities the essential principle of its own activity, and not depending either for initiative or continuance of its action upon its intrinsic nervous mechanism.

This opinion of the automatism of heart-action rests on some very good reasons drawn especially from embryology. The heart beats in the embryo long before any nerve-mechanism or fibers can be demonstrated in it, before any nerve substances has been really differentiated autogenetically. Engelmann, the successor of Du Bois Reymond in the Chair of Physiology here at Berlin, has especially insisted on this. His and Romberg have pointed out that the ganglionic character of the heart-nerves associates them naturally with sensory nerves, and that it is to this class, not the motor-nerves, that the heart-nerves all belong. Hofmann has shown that the removal of the whole septum of the frog's heart with all the ganglia of Remak that it contains does not disturb the heart's contractility or persistent contraction at all. Krehl has even isolated certain parts of the heart in which no ganglia could be demonstrated, and so long as they represented definite anatomic parts of the heart-muscle they could be made to continue their pulsations for hours.

His teaches that the conduction of the contractile wave in the heart is through muscle-fibers not nerve-fibers, and Engelmann has demonstrated by accurate measurements of the time it takes the pulsatile wave of contraction to pass from the sinus through the auricle to the ventricle that this wave is 300 times too slow to come through motor nerves, and so must find its way through the muscle-fibers.

Professor Leyden demonstrated before the Society the results of section of the vagus with irritation, not of the peripheral end, but of the proximal end. The well-known resultant momentary stoppage and slowing of the heart,

which occurs when the proximal as well as the peripheral cut end is irritated, Professor Leyden took to indicate the sensory function of the vagus; the usual explanation that the nervous irritation is communicated to the other vagus in the nervous centers, and then carried down as an inhibitory impulse, seeming far-fetched. In the frog's heart with both vagi cut, irritation of the proximal end still slows the organ.

The acceptance of these views as to the physiologic function of heart-nerves, and the automatism of the heart-muscle, would lead to a change in much of the present clinical consideration of cardiac conditions. Most of the terms used depend on the supposed stimulant and inhibitory functions of nerves. They are not likely to be adopted at present, yet their ever-increasing claims for attention on the part of clinicians is evident. There are some other views of Professor Leyden's on nervous questions in which he was as distinctly unique in his position as this, and yet in which time has shown that he was in advance of his time, and upholding views that have since become the universal teaching in medicine.

TRANSACTIONS OF FOREIGN SOCIETIES.

London.

TREATMENT OF CHRONIC BRIGHT'S DISEASE—ACUTE DILATATION OF THE HEART IN RHEUMATIC FEVER —SAGITTAL FONTANELLE AT BIRTH.

AT a meeting of the Royal Medical and Chirurgical Society, June 28th, EWART read a paper on the "Treatment of Chronic Bright's Disease." He pointed out that the methods of treatment hitherto adopted in chronic Bright's disease (tubal nephritis) have not cured the trouble, and often have not removed the symptoms. Still, there are patients who recover spontaneously, even when the disease is of long standing, and this leads to the hope that a suitable treatment may yet be found, inasmuch as the lesions are not necessarily fatally destructive of the structure of the kidney. An uncomplicated tubal nephritis may be looked upon as a long-standing catarrh. Its symptoms are: (1) Dropsy, (2) anemia, (3) oliguria, and (4) cachexia, often concealed by the persistent edema. Edema may be considered Nature's protection against fatal intoxication. In itself edema is harmful by choking the tissues and impeding lymphatic circulation. It hinders nutrition both locally and generally. Its usual treatment by rest in bed impairs the vital functions. Tubal nephritis may, therefore, properly be looked upon as a lymphatic disease, and treated accordingly. The edema should be made to collect in the lower extremities by slanting the bed, and the trunk and upper extremities thus freed from the edema, should be still further improved by massage. Acupuncture or incision and drainage, if faithfully persisted in, will afford relief to the edematous tissues of the whole body, will remove from the system a large amount of contaminated fluid, and will grant the kidney a physiological rest by opening up another exit for the ingested fluids. A surcharge of the blood with alimentary and effete products being thus avoided, a varied diet can be given, to the great benefit of the patient. A free, lymphatic circulation is an essential part of the treatment of the kidney in nephritis. Southey's tubes or small incisions into dilated lymphatics, preferably at the back of the ankles, are the means employed to drain the edema. Every antiseptic precaution should be employed, and the wound kept covered with a cloth moistened with a mild antiseptic solution. The surrounding skin should be smeared with vaselin to prevent the bad effects of constant soaking. While the flow continues free a liberal diet may be given. If it tends to dry up, it may be necessary to resort to a milk diet for a few days until it is again well established. In a recent case the patient will soon be able to leave his bed. The usual methods of medication directed to strengthening the heart will succeed better when the edema has been relieved.

LEES read a paper on "Acute Dilatation of the Heart in Rheumatic Fever," a condition which he claimed is a common thing, even when arthritis and pyrexia are slight in amount, and apart from endocarditis and pericarditis. In support of these propositions he presented tracings of the cardiac dulness made from patients under his care. The accuracy of estimates of cardiac dulness obtained by percussion has been repeatedly confirmed by autopsies. The acute cardiac dilatation in rheumatism is analogous to that seen in influenza, and in both diseases it is the result of the poisonous action of a microbic toxin on the muscle of the heart.

A number of tracings of the hearts of children suffering from rheumatism and chorea were also presented. They showed also, without exception, an increase in the cardiac area in the beginning of the disease, with a decrease as recovery took place. If relapse sets in, there may be a return of the cardiac enlargement. The value of this acute dilatation in the diagnosis of arthritis of doubtful nature was pointed out. the speaker holding that many times symptoms are set down to adherent pericardium in recurrent cases, which are really due to this cardiac increase.

At the Obstetrical Society, July 6th, LEA read a paper on the "Sagittal Fontanelle in the Heads of Children at Birth." Several abnormal fontanelles have been described: the nasofrontal, cerebellar, mediofrontal, and sagittal, but the last named is of especial interest to obstetricians. From the examination of 500 consecutive infants at birth he was able to draw some pretty general conclusions. The fontanelle is situated 2 cm. (4/5 inches) in front of the posterior fontanelle, on a transverse line drawn between the two parietal eminences. Its average length is 1.5 cm., and width 1 cm. It may form a space as large as the anterior fontanelle, and may be present on one or both sides. He found it bilateral in 17 cases, and unilateral in 5 cases. Taking them together, the fontanelle was present in 4.4 per cent. of the cases. The membranous space may be surrounded by well-developed bony edges, or the posterior portion of the parietal bone may be wanting. This fontanelle has a medico-legal as well as obstetrical interest.

HERMAN said that the presence of this fontanelle might mislead one accustomed to rely on the digital examina-

tion of the sutures and fontanelles for the diagnosis of the fetal position. This would not, however, trouble anyone who used abdominal palpation to determine the child's position. A second point is that the presence of the fontanelle, if correctly recognized, might induce one to apply forceps in a case where perforation would otherwise be performed, since it would show that ossification was backward.

SPENCER doubted the so frequent occurrence of a sagittal fontanelle. He thought that perhaps a fissure had in some instances been mistaken for a fontanelle. He had examined the skulls of 300 newborn infants, but had in no case seen a sagittal opening which was at all comparable to the anterior fontanelle.

Edinburgh.

ACUTE AND CHRONIC RHEUMATIC MYOSITIS—THE OPERATIVE TREATMENT OF ENLARGED PROSTATE—THE RELATIVE POSITIONS OF THE PROMONTORY AND THE SYMPHYSIS PUBIS.

MILLER read a paper, entitled "Rheumatic Myositis in its Acute and Chronic Form," before the Medico-Chirurgical Society, June 1st. The affection is often mistaken for articular rheumatism, especially if the muscle involved overlies a joint. The symptoms are pain, swelling, fever, and constitutional disturbance. The pain is situated at the origin and insertion of the muscle, and is increased by its contraction, though not by all of its motions. The effusion into the skin and subcutaneous tissue may cause a crackling on palpation, which is especially well marked in pleurodynia. Acute attacks subside in a few days. In the chronic form of the disease the stiffness is more or less constant, and there is muscular wasting. Points to be noted are: (1) The pain comes on in advance of wet weather; (2) the pain is often associated with a falling barometer, but may occur with a rising barometer if the wind is from the north or east; (3) the pain may subside when the rain has fairly set in; (4) mists cause an attack, as do (5) east winds without mist; (6) pain may be conspicuously absent in cold weather if the air be dry. This is most noticeable in the Arctic regions.

Internally the alkalies are good, as are also the salicylates. Iodid of potash and actea racemosa are also valuable, the latter in lumbago and stiff neck. The best local treatment is the application of dry heat. Rubefacients are also allowed, but blisters are bad for the reason that the pain they cause keeps the limb still, and stiffness of the joint is likely to follow. Massage to give the best results should be both passive and active. Voluntary motions, especially those which so stretch the muscles as to cause pain, are better than any passive motions. Excessive movements are to be forbidden. A dry, warm climate is the best for these chronic cases.

THOMSON read a paper on the "Operative Treatment of Enlarged Prostate." The surgeon has to deal usually with the critical cases of this trouble when the patient has failed in his usual catheterization. The old treatment was to tie in a catheter, or to perform a careful catheterization two or three times a day. More recent methods of relief are perineal and suprapubic drainage, but these are at best not cures. The operations available for a cure are: (1) Destruction of the prostatic tissue by a galvanocautery. Bottini, the inventor of this method of treatment, has performed the operation eighty times with only two deaths, but owing to the uncertainty of such blind cauterization the method has not been widely adopted. (2) Suprapubic prostatectomy is an ideal operation in those cases in which the middle lobe of the prostate is especially enlarged. (3) Double castration had been performed by the reader four times, and in every case the result was gratifying. In all cases there was, in addition to the local improvement, an improvement in the general health of the patient. (4) Vasectomy, an operation performed in one case by Thomson, but without affording relief. The conclusions drawn were that prostatectomy is to be performed in all suitable cases, as it is the one effective and comparatively safe operation. In other and unsuitable cases double castration is indicated.

At a meeting of the Obstetrical Society, June 22d, BARBOUR spoke of the position of the promontory as shown by frozen sections made in eighteen different subjects. He found a great variation in both the anatomic and obstetric conjugates, the former varying from 3.8 to 5.6 inches, and the latter from 3.4 to 5.3 inches. The perpendicular height of the promontory above the symphysis varied from 2.4 to 5 inches. In other words, in three-fourths of the cases the whole of the sacrum and a small portion of the coccyx were above the level of the symphysis. The angle between a line from the promontory to the symphysis and a horizontal line from the symphysis varied from 33° to 65°.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

Thirty-first Annual Meeting, Held at New London, Conn., July 19, 1898.

DR. ARTHUR MATHEWSON of Brooklyn in the Chair.

REPORT OF A CASE OF DOUBLE MASTOID DISEASE PRESENTING SYMPTOMS OF AN INTRACRANIAL COMPLICATION; OPERATION; RECOVERY,

was the title of the first paper, read by DR. GORHAM BACON of New York. He said the double mastoiditis followed a severe cold in the head and presented symptoms that led to the expectation of finding sinus thrombosis. The mastoid process on each side was opened and cleansed of granulation material, etc. Neither sinus was opened, as notwithstanding the anterior walls of each were affected, it could not be demonstrated that there was a thrombus. Examination of the pus showed the presence of pneumococci and staphylococci. The patient made a good recovery. The speaker opposed the practice of puncturing the sinus because he does not believe it determines the presence or absence of the thrombus, and because it increases the danger of introducing infection into a healthy sinus.

THREE CASES OF SUPPURATION OF THE LABYRINTH, TWO OF THEM PRODUCING ABSCESSES OF THE CEREBELLUM,

was read by DR. J. ORNE GREEN of Boston. He exhibited the temporal bones in which the labyrinthine structures had been more or less destroyed.

BLOOD-CLOT IN MASTOID OPERATIONS,

was the title of the next paper, by DR. C. J. BLAKE of Boston. He suggested that in cases of acute suppurative disease of the mastoid, after thorough evacuation of the mastoid contents the cavity should be allowed to fill with fresh blood and the wound in the skin be apposed without sutures. This had been done in a number of his cases and the shortest period between operation and complete healing was only four days, while the average period in the successful cases was ten days. The same method was applied to a number of chronic suppurative cases with very good results. The method has the advantage that even if not successful and the part becomes infected the wound can be opened at the first dressing and can then be packed as usual without any damage having been done.

Dr. Blake also read a paper, entitled

CONTROL OF HEMORRHAGE FROM THE SINUS AND MENINGEAL VESSELS DURING MASTOID OPERATION BY MEANS OF INTRACRANIAL PRESSURE.

He described the method which he had adopted some time ago for the control of hemorrhage from the lateral sinus. When by accident or design he opens the sinus and hemorrhage occurs he does not pack the wound but by the use of the spoon curette he proceeds rapidly to increase the size of the bony opening by cutting away its edges, so that the pressure from within the cranium brings the brain substance into the opening and forces the inner wall of the vessel to plug its own lumen. This method possesses advantages over packing in that it is easily and quickly done, promptly arrests bleeding, and causes no delay in finishing the operation on the mastoid.

THE FUNCTIONAL EXAMINATION OF THE EAR, WITH DEMONSTRATION OF BEZOLD'S CONTINUOUS-TONE SERIES,

was contributed by DR. HERMAN KNAPP of New York. He exhibited Bezold's continuous-tone series, ranging from a low fork of sixteen vibrations a second to the higher note of the whistle, about forty vibrations. He also reviewed the methods of functional examination of hearing and laid stress upon its importance, especially with reference to deaf-mutes. Regarding the latter, he cited Bezold's work to show that much can be gained in the education of these people by definitely measuring their hearing rests and shaping the plan of education in accordance with the results. Bezold has proved that the aptitude of deaf-mutes to learn depends upon the tone-rests preserved in their organs of hearing.

TREPHINING OF THE STAPEDIAL FOOT-PLATE FOR OTITIS MEDIA SCLEROSA,

was read by DR. H. A. ALDERTON of Brooklyn. He reported an interesting case in which after all other treatment had been tried and the crura of the stapes had been broken off in an effort to remove this bone he trephined the foot-plate. From his experience he concluded that nothing permanent is gained by the operation, and that while nothing disastrous is to be looked for as the result of it he would counsel against it.

The next paper,

A REPORT OF CASES OF OTOMYCOSIS TREATED BY INSUFFLATION OF BORACIC ACID AND OXID OF ZINC,

was read by DR. SAMUEL THEOBALD of Baltimore. He stated that seventeen years ago, in the *American Journal of Otology*, he had first called attention to this method which he has since used with uniformly good results. He thinks that treatment of such cases by the use of alcohol should be abandoned, as it is not a suitable agent to pour into an inflamed and painful ear, and must be used for a long period of time, whereas, in the method suggested but two or three applications are necessary.

THE SEQUELÆ OF MIDDLE-EAR SUPPURATION, WITH A REPORT OF CASES,

was read by DR. E. B. DENCH of New York. He urged the necessity for removing all the diseased bone in every case of suppurative otitis media in order to protect the patient from infection. He showed that in some cases in which the drainage is free the danger of infection of the brain substance or membranes is less than when the escape of pus is not free from the external auditory canal, although as long as the middle-ear is the seat of inflammatory trouble extension to the cranial cavity through the bony walls is always a possibility.

DOES TYMPANOTOMY AND REMOVAL OF THE INCUS ARREST PROGRESSIVE HARDNESS OF HEARING?

was the title of a paper by DR. C. H. BURNETT of Philadelphia. He said that this question is answered in the affirmative, and sixty-one cases in which the operation has been performed have been reported. In some of these cases the disease has not only been arrested, but the hearing improved, and he thought the time has come not only to make use of the operation in those cases where deafness is advanced to a great degree but to treat the patients while the disease is in its earlier stages and thus avoid greater deafness.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Thirty-fourth Annual Meeting, Held at New London, Conn., July 20 and 21, 1898.

DR. GEORGE C. HARLAN of Philadelphia in the Chair.

The first paper, entitled

WHY THE PROPORTION OF BLIND IN THE COUNTRY IS GREATER THAN IN LARGE CITIES,

was read by DR. LUCIEN HOWE of Buffalo. He said that in the twenty-five largest cities of the United States the proportion of the blind is, with two exceptions, smaller than in the States in which these cities are situated, or taking all the cities of more than 50,000 inhabitants together about thirty-three per cent. less blind are found in

them than the average for the entire country. When the different factors in the production of blindness are examined, whether congenital or acquired, or, under the latter class, whether due to traumatism, general disease, or to local disease, these factors are all practically the same, or are made equal in city and country, with one exception, namely, ophthalmia of infancy.

A rather extended inquiry concerning the habitual practice of physicians in country almhouses, in hospitals and elsewhere in the State of New York indicates that more attention is given to guarding against ophthalmia of infancy in the cities than in the country. The tendency to the habitual neglect of prophylaxis tends to make a rapid difference in the distribution of the blind, estimated at possibly 14 to 1. It is at least the most apparent cause of this difference and probably accounts for the greater part of it. It follows from this apparently warrantable conclusion that if as great care were taken in general throughout the country as is given on the average in the cities to prophylaxis the number of blind in the United States would be decreased in a single generation by several thousands.

SOME UNUSUAL TUMORS OF THE EYE AND ORBIT

was the title of the next paper, read by DR. CHARLES STEDMAN BULL of New York. He reported one case of sarcoma, which was supposed to be due to an injury of the eye received at some previous time, and a second case in which the microscopic examination showed the appearance of tubercles, but in which the clinical history of tuberculosis was negative.

DR. E. FRIDENBERG of New York then read a paper on

OSTEOMA OF THE ORBIT WITH ENOPHTHALMUS.

The two features of interest in this case were, first, the position of the tumor, which was located much more toward the temporal aspect of the orbit than usual, the mass of the osteoma being about at the center of the upper orbital margin, and, secondly, the position of the eye, which was crowded backward into the orbit and slightly downward; in other words, there was enophthalmus instead of the customary exophthalmus. The tumor with the anterior wall of the sinus was chiseled away and the patient made a good recovery, though the eye remains still slightly lower than its fellow. Vision of 22/100 was improved to 20/50 by the use of glasses, the Javal ophthalmometer showing the presence of 8D astigmatism, which was corrected by +4.Cyl. ax. 90°○-4.Cyl. ax. 180°.

ABSCESS INVOLVING THE FRONTAL SINUS, WITH DESTRUCTION OF THE VAULT OF THE ORBIT AND DEPRESSION OF THE EYEBALL

was the subject of a paper by DR. C. F. CLARK of Columbus. This abscess seemed to occur as the result of traumatism, the patient having received a blow in the face about a year previously, and having suffered more or less constantly from headaches and other symptoms which might be attributed to abscess in the sinus. The bone had been eroded to such an extent that the brain cavity was invaded, and the depression of the eye was sufficient to porduce a hyperphoria of the opposite side equal to 5½°. The patient did well after operation, but the wound has not thoroughly healed, probably because of the presence of some sequestra. During the year before she came for treatment she would occasionally have attacks of pain followed by discharge of mucus and pus from the nose and mouth and she noticed at such times that the size of the swelling of the orbit diminished. Pressure over the swelling met with such firm resistance that it was at first suspected that the condition was produced by an osteosarcoma.

A LARGE TUMOR OF THE ORBIT (FIBROSARCOMA) OF TWENTY-THREE-YEARS' STANDING; REMOVAL,

was reported by DR. F. M. WILSON of Bridgeport, Conn. He exhibited the specimen, which was of immense size for an orbital tumor. The patient had had the power of opening the lids but could not close them over the tumor except by taking hold of the free border of the upper lid and pulling it out. The tumor had existed for a remarkably long time and there were conflicting opinions as to the advisability of operation. Up to the present time it appears to have been a success. Although the eye was so displaced that the cornea was 1¼ inches in front of the orbit, motility of the iris and some vision has been retained.

A CASE OF LIPOMA OF THE ORBIT

was reported by DR. EMIL GRUENING of New York. It occurred in a young man, was lobulated, about the size of a lima bean, and microscopic examination showed nothing but fat-cells. The author stated that most tumors of this class which have been reported were subconjunctival tumors.

The next paper, entitled

THE TREATMENT OF ENTROPION OF THE LOWER LID WITH CAUSTIC POTASH,

was read by DR. SAMUEL THEOBALD of Baltimore. He said that in applying this method the aim should be to produce an eschar 3 to 4 mm. wide, parallel with the lid margin and extending the whole length of the tarsus. The action of the caustic should not be allowed to approach nearer the edge of the lid than 1½ to 2 mm. When the requisite effect has been produced the caustic action should be checked by the application of vinegar diluted with an equal quantity of water, or a solution of acetic acid of about the same strength. The eschar soon begins to contract and the lid, which up to this time has been held in an everted position, no longer shows an inclination to turn in. It is seldom necessary to repeat the operation, but this can be done if necessary. The treatment is especially applicable to senile entropion, but useful also in other varieties. Better results, it was thought, could be obtained by the use of the caustic than by the knife and no other anesthesia is necessary than the local application, on cotton, of cocain.

LYMPHOMA OF THE LIDS

was the title of the next paper, which was read by DR. MYLES STANDISH of Boston. He reported a lymphomatous growth in the lower lid close to, but not involving, the lachrymal sac. The administration of arsenic had resulted in its cure.

A CASE OF SPINDLE-CELL SARCOMA INVOLVING THE CONJUNCTIVA AND CORNEA; REMOVAL OF THE GROWTH WITHOUT IMPAIRMENT OF SIGHT,

was reported by DR. S. B. ST. JOHN of Hartford. The patient was a man seventy-two years of age who had lost the right eye twelve years previously as the result of traumatism. The growth appeared upon the left eye and grew in 2½ months from the size of a pin-head to that of a large pea. It sprang from the conjunctiva, was movable with that tissue, and overlapped the cornea. It was removed much after the fashion of that employed in a pterygium operation.

CONJUNCTIVAL MELANOSARCOMA INVOLVING THE CORNEA

was reported by DRS. JOHN GREEN and A. E. EWING of St. Louis. The tumor was a true melanosarcoma, involving the cornea to such an extent, and was of such a size, that it became necessary to enucleate the eye.

Drs. Green and Ewing also reported a case of

HYPOPION KERATITIS AND BREAK IN DESCEMET'S MEMBRANE,

in which, preceding perforation, fluorescin was passed through the ulcer into the anterior chamber. The hypopion, 5 mm. in height, occurred as a sequence of a traumatic ulcer of the cornea. The treatment which Dr. Ewing followed with good results was the free use of hydrogen-peroxid solution of normal strength, applied on a little mop to the surface of the ulcer and held there, and the application renewed half a dozen times until there was a cessation of the ebulition. On making this application bubbles of gas would appear in the anterior chamber, but the gas was rapidly absorbed and in a few hours nothing remained of it. Fluorescin produced its characteristic reaction. The hydrogen peroxid seemed to have the effect of breaking up the hypopion mass and producing the good results that occurred. The conclusions drawn by the essayist were that one source of hypopion keratitis is through a direct break in Descemet's membrane, by exudation from the iris, or, possibly, from the epithelium of Descemet's membrane.

A case of interstitial keratitis, congenital in origin, was reported by DR. H. F. HANSELL of Philadelphia. The patient was first seen when only thirty-six hours old, and presented these symptoms: A thin, watery discharge from the eyes, lids slightly swollen and bluish-red in color, and conjunctivæ smooth, but the ocular portion distended from the fornix to the limbus of the cornea by an almost transparent effusion. The cornea showed on inspection a gray infiltration of the deep layers, consisting of fine points that tended to become confluent, most dense over the pupil, without vascularity or loss of epithelium. The child was poorly nourished, probably because of the fact that the mother, though ordinarily a healthy woman, had been in bad health throughout her pregnancy. There was no history of specific disease. The child was given tonics, and at the end of six weeks there remained only a slight opacity of the cornea. The local treatment consisted of applications of mydriatics. A similar case was referred to, reported by Barnacheff, in which the cornea became entirely clear.

The next paper, on

A NEW TREATMENT OF ULCERS AND OTHER INFECTIOUS DISEASES OF THE EYE BY CASSAREEP,

was read by DR. S. D. RISLEY of Philadelphia.

This preparation is made from the juice of the black cassava, and is used in the form of a ten-per-cent. ointment. It is applied freely between the lids, and the eye subjected to massage to distribute it, and in the corneal cases, the protecting bandage applied. It causes no irritation, and rapidly brings about improvement.

The first paper read during the afternoon session was by DR. J. P. WORRELL of Terra Haute, Ind., entitled

SPONTANEOUS EXPULSION OF A FOREIGN BODY FROM THE ANTERIOR CHAMBER.

The patient was a boy who had received an injury of the right eye while exploding a gun-cap by striking it with a hammer. After the inflammation had cleared up a small piece of bright metal could be seen on the inner surface of the cornea. The patient declined operation for its removal, and some days later appeared with the statement that "feeling something scratching the eye, he rubbed it with a bit of cotton, and removed, with some secretion, a small piece of bright copper." No inflammatory trouble followed.

SOME OF THE EARLIER SYMPTOMS OF SENILE CATARACT

was the title of the next paper, read by DR. W. F. MITTENDORF of New York. The essayist had carefully observed the last 508 cases of incipient senile cataract which had occurred in his practice in order to determine the exact location of the first changes in the transparency of the lens. Of these, 106 were central and 402 peripheral, and of the latter the starting-point of the striæ was found in the upper periphery in 13 cases only, in the outer periphery in 47, in the general pheriphery, 48, and in the greatest number, 286 cases, in the lower and inner quadrant. Admitting that cataractous changes do not depend upon senility alone, but more particularly upon the nutrition of the lens, Dr. Mittendorf offered as a possible reason for the great prevalence of opacities in the lower inner quadrant the theory that there is a constant accommodation for small objects, especially in the reading by artificial light, requiring a more or less forced convergence and a downward look, during which the pressure upon the surrounding tissues is an impediment to the nutrition of this particular portion of the lens.

THE OPERATIONS FOR SECONDARY CATARACT

was read by DR. H. KNAPP of New York. He reported a very interesting case of secondary cataract operations. The primary operation for removal of the cataract was without special interest. The capsule becoming cloudy and necessitating a secondary operation, it was needled in the ordinary way. The immediate result was good, but two days later reaction occurred, and a severe, acute glaucoma set in. An iridectomy was at once attempted, but it was found impossible to catch

hold of the iris, so the operation was abandoned. The patient was relieved, however, of all pain and discomfort as a result of the paracentesis, and remained so for four days, when the trouble again set in. A second attempt at iridectomy was made, and this time successfully. The relief was permanent. Dr. Knapp then presented a tabulated report of 70 cases of secondary cataract operated upon since October, 1897. Sight was improved in 63 instances, remained the same in 6, and was almost lost in 1. Two cases besides the one quoted above were complicated by glaucoma, one of them being relieved by myotics and the other by an iridectomy.

Considering the advisability of operating in subjects having vision not below 20/70, the author said it must depend upon the case, but that ordinarily he believed one should attempt to give the patient the best sight his eye is capable of, especially as the secondary operation is safe. He considered discission the proper operation, and laid down as a rule of paramount importance, "Cut, don't tear." As the region of the wound made in the primary extraction is the weak point in these eyes, he considered it advisable to avoid that region as much as possible in the secondary operation, and to make a T-shaped incision in the capsule, the horizontal arm of the T being situated below the linear scar.

DELAYED UNION AFTER CATARACT EXTRACTION

was the title of a paper by DR. GEORGE C. HARLAN of Philadelphia. He reported two instances of delayed union after cataract operations, in one of which union took place some where between the tenth and seventeenth days, and in the other at the end of 20 days. By a review of the literature he had found 26 similar cases in which the delay had lasted from 5 to 20 days. In 20 of these cases no cause could be given for the wounds having remained open. He stated that such cases seem to require no special treatment other than the application of atropin and a slight pressure-bandage, together with treatment of any complications which may arise.

SECOND DAY—JULY 21ST.

The first paper, entitled

PROTARGOL IN THE ANTISEPTIC PREPARATION OF THE CONJUNCTIVA PRIOR TO CUTTING OPERATIONS ON THE EYEBALL,

was read by DR. B. E. FRYER of Kansas City, Mo. He uses a two-per-cent. solution of protargal as an antiseptic, and finds it preferable to solutions of mercuric bichlorid, etc. It is destructive to all organisms and is not irritating.

BUPHTHALMIA, AN INTERESTING SERIES OF CASES OCCURRING IN THE SAME FAMILY,

was read by DR. WALTER B. JOHNSON of Paterson, N. J. Three children in one family were found buphthalmic within the first few years of life. Ophthalmic examinations were not satisfactory. Two of the children were operated upon in Naples, and the third by the speaker. In every case the progress of the disease was arrested. The mother's eyes were normal, but the father thought he had never seen out of one eye, in which a disintegrated calcareous lens prevented a fundus examination.

A CONTRIBUTION TO THE PATHOLOGY OF THE EYE AND ITS APPENDAGES

was read by DR. G. E. DE SCHWEINITZ of Philadelphia. He reported the following cases:

CASE I.—Primary carcinoma of the caruncle. A small growth entirely replacing the right caruncle, about the size of an ordinary pea, which had existed for a number of years. Microscopic examination proved it to be carcinomatous. So far as known there has been no recurrence.

CASE II.—Prelachrymal growth with the histologic characters of tubercle. A small tumor anterior to the lachrymal sac was discovered while probing the tear-duct. It was easily removed, and on examination showed the appearances of tubercle, although no tubercle bacilli could be found.

CASE III.—Angioma of the lachrymal gland extending to the apex of the orbit; removal, with preservation of the globe; functions of the eyeball and of the external ocular muscles, with the exception of the levator, which was involved in the growth. This tumor, which is exceedingly rare, consisted of an angiomatous growth involving the lachrymal gland, and extended deep into the orbit. It was probably congenital. In front of the ear, on the same side, there was a small cavernous angioma about one and one-half inches in length, and one inch in width, but not communicating with the growth of the lid.

The next paper, entitled

REMARKS ON CASES OF HIGH MYOPIA; TREATMENT OF ONE CASE BY REMOVAL OF THE CRYSTALLINE LENS,

was read by DR. H. D. NOYES of New York. He said that the interesting features of this case were the early occurrence of converging squint, the rapid development of myopia between the sixth and eighth year, the removal of the lens produced a change of 16D, and with it an improvement of vision to double the previous condition; binocular vision was not secured by the refractive changes, and diplopia was never observed.

CONTRIBUTION TO THE OPERATIVE TREATMENT OF HIGH MYOPIA, WITH REPORT OF AN ADDITIONAL CASE,

was read by DR. W. H. WILMER of Washington. The operation in the case reported decreased the myopia by 22.5D., and the vision was double what it had been before operating. In regard to the mode of operation, the author preferred a slight discission, making a very small opening in the anterior capsule, followed by extraction within six days. As to the amount of myopia which offers the best operative result, he considered the ideal case to be the one in which two or three diopters of myopia would remain after the operation. According to his experience, this would mean a myopia of twenty-five diopters.

THE PATHOLOGY OF EXPERIMENTAL QUININ AMBLYOPIA

was read by DR. WARD A. HOLDEN of New York. His

experiments were made with the aid of the newer stains for nerve-tissues, and he exhibited drawings showing the changes that exist at various stages of the quinin-poisoning. The first changes were shown in the breaking down of the ganglionic cell bodies and a deposition of myalin-like substance in the nerve-fibers. This appeared within three days after administration of toxic doses. From that time until the seventeenth day more ganglion cells were destroyed and at that time changes in the optic nerve, consisting of a breaking down of the medullary sheaths of the fibers, were noticed. By the forty-second day the ganglion cells and the nerve-fiber layer had almost entirely disappeared and the degeneration could be traced up to the external geniculate body and pulvinar. No signs of degeneration could be found elsewhere in the brain or cord.

TWO CASES OF PREMATURE DELIVERY TO PRESERVE SIGHT

was read by DR. A. E. ADAMS of Newburg, N. Y. He reported two cases of albuminuric neuroretinitis occurring in pregnant women, with vision reduced to a very low point. Shortly after premature delivery the vision showed marked improvement and the author concluded that if abortion is ever justifiable it is in these cases, especially as the uremic condition of the blood is dangerous to the life of the fetus as well as a menace to the mother.

IMPLANTATION OF SPONGE IN THE ORBIT AFTER ENUCLEATION

was the title of a paper by DR. S. D. RISLEY of Philadelphia. In the case reported a fragment of surgeon's sponge, carefully sterilized, was pared down to a size just sufficient to loosely fill the cavity left by the removal of the ball and to permit the suturing of the conjunctiva and the subjunctival tissue over it without undue tension. The design was to furnish a framework for the deposition of connective tissue in the orbit and thus avoid the concaved socket which follows enucleation, and always permits the accumulation of tears and mucus behind the artificial eye. After the operation the appearance was much the same as that presented after the insertion of a glass globe, as in Mule's operation. Two or three months is required to complete the process of absorption of the sponge and the deposition of new tissue.

DR. C. J. KIPP of Newark, N. J., then exhibited a pair of chalazion forceps, one blade of which was solid while the other contained a slit, so that when this blade is placed over the conjunctival surface of the chalazeon the latter may be incised through the slit and its contents squeezed out by pressure.

The following were elected to membership: Drs. J. W. Ingalls of Brooklyn, Anton Coe of Washington, J. H. Claiborne and F. N. Lewis of New York, J. T. Carpenter, Jr., James Thorington, W. C. Posey, C. L. Veasy, A. G. Thomson, and T. B. Schneideman of Philadelphia, and W. L. Wood of Portland, Oregon.

The officers elected for the ensuing year were the following: President, O. F. Wadsworth of Boston; vice-president, Charles Stedman Bull of New York; corresponding secretary, J. S. Prout of Brooklyn; recording secretary and treasurer, S. B. St. John of Hartford. New London, Conn., was chosen as the next place of meeting.

REVIEWS.

THE PERITONEUM. By BYRON ROBINSON, M.D. Part I. Histology and Physiology. Illustrated Chicago: The W. T. Keene Co.

THE author presents in this volume the results of his original investigations on the histology and physiology of the peritoneum. The histologic work is enormous in extent, and covers experiments made upon various animals, and a minute study of the tissue in man and lower animals. In his conclusions as to the purpose of the subperitoneal tissue, the author states his belief that the diaphragm is the characteristic muscle of mammalian life, in which we think he will find himself at variance with some other observers of note. He has found that the central tendon absorbs as well in the dead animal as in the living, and therefore doubts the so-called "vital" process of endothelial cells, The author brings out clearly that it is through the lymphatics and not through the blood-vessels that absorption takes place in the subperitoneal tissue. Numberless other points that deal with the histology of the peritoneum are brought out, but lack of space prevents the exhaustive review of them which they deserve.

In his study of the physiology of the peritoneum, Dr. Robinson found, as did Adler and Meltzer, that fluids are absorbed from the peritoneum after death. He points out that the areas of active absorption are the most dangerous zones of peritonitis, which is of itself a life-saving inflammatory process; that the peritoneum heals easily and readily; that the peritoneum is inherent with power to resist trauma and infection; that the visceral layer is more sensitive than the parietal and that through many ages of evolution the pelvic, appendicular and large intestinal peritoneal coverings have become more resistant to infectious germs than other regions.

The book is an interesting one and represents an immense amount of toil and perseverance. As an original study, it will command attention and it deserves it. We regret that we can not review it more extensively. A large bibliography is appended. The book is only fairly printed and the proof-reading is not good.

DIE TECHNIK DER SPECIELLEN THERAPIE. Von Dr. F. GUMPRECHT, Privat-docent in Jena. Jena: Gustav Fischer, 1898.

FOR the practitioner who is at sea in regard to a therapeutic procedure which he would like to try, and for the student who wishes to learn how to carry out such measures this book fills a peculiar place. The procedures carried out for curative purposes in all parts of the body are described in detail, even to the minutest particular. The dangers and complications of each measure are also clearly pointed out. Among the procedures described are intubation, the passing of esophageal sounds, gastric lavage, massage, enemata, thora-

centesis, abdominal puncture, lumbar puncture, catheterization, venesection, transfusion and vaccination. But a few of the details of the book have been chosen in order to convey a notion of the vast field it covers. It is unique and useful, and we should like to see it rendered into English.

DIABETES MELLITUS AND ITS TREATMENT. By R. T. WILLIAMSON, M.D. (Lond.), M.R.C.P., Medical Registrar, Manchester Royal Infirmary. Illustrated. New York: The Macmillan Co., 1898.

THE study of diabetes which formed the basis of the author's discovery of the discoloration of methylene blue by blood taken from a diabetic subject, have made his name well known in connection with this disease. A contribution from his pen in the form of a monograph upon diabetes is bound to be interesting. In the work before us we find a more thorough consideration of the subject than has yet appeared in the English language.

The author, aware of the lack of uniformity of pathologic findings in persons dead of diabetes, devotes but a short chapter to the various theories that are accepted in different parts of the medical world as to the pathologic basis of the disease. The views of Kaufmann, Pavy, Ebstein, Leegen, and Burge are given. The relations between lesions in the pancreas and in the medulla oblongata and a glycosuria are discussed in minute detail, the author holding that these lesions represent complications rather than etiologic power. The chapters devoted to symptomatology and complications are particularly full and thorough. The treatment of the disease is excellently handled, and closes the work in a thoroughly practical manner. The bibliography attached to each chapter and an appendix on diabetic dietetics add value to a work which in completeness and didactic worth is unexcelled. The book-making is excellent.

THE SURGICAL COMPLICATIONS AND SEQUELS OF TYPHOID FEVER. By WILLIAM W. KEEN, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Philadelphia: W. B. Saunders, 1898.

THE author has given us a very unique monograph and pioneer in its field, based upon 1700 cases of typhoid complications largely from his own experience and those recorded in literature within the last fifty years. Following the introduction and a short discourse on the pathology of typhoid fever, the book proper opens in Chapter III. with "Typhoid Gangrene," the modified Shattuck lecture for 1896. The closing chapter on "Ocular Complications" is contributed by Dr. George E. de Schweinitz. Appended is the "Taver Lecture," by the author, on "The Surgical Complications and Sequelæ of the Continued Fevers."

The author repeatedly reports many a case as of doubtful origin when it is not confirmed by the demonstration of typhoid bacilli, and particularly those cases antedating the discovery of Eberth's bacillus. Such an array of cases, so critically considered, is well worthy the careful study of the physician and surgeon. To both alike it will open up a new field in the diagnosis of many heretofore neglected complications following in the wake of typhoid fever. The surgeon will find encouragement in the author's conclusions as to the propriety of operating in cases of biliary and intestinal perforations. This work will at all times be authoritative on this subject.

THE RETROSPECT OF MEDICINE. Edited by JAMES BRAITHWAITE, Obstetric Physician and Surgeon to Leed's General Infirmary, etc. Vol. CXVI. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd., 1898.

IT is scarcely necessary to do more than to announce the present volume of Dr. Braithwaite's famous "Retrospect of Medicine." The present one is fully up to its predecessors and is complete in its various divisions. Little of importance has been omitted, and the progress of the six months with which the volume deals is fully told.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

THIS is a collection of reprints of articles and papers representing the work done during the past year in the laboratory of the College of Physicians and Surgeons. Most of the articles have appeared in the current medical press. Among those of particular interest are: "A Contribution to the Study of Acute Ascending Paralysis," by Drs. Pearce Bailey and James Ewing; a paper on the "Morphological and Biological Examination of Exudates in Cases of Chronic Urethritis," by Dr. Henry Heiman; "Bacterial and Allied Diseases as Applied to the Clinical Diagnosis of Typhoid Fever," by Dr. John S. Ely, and "The Lymphatic Constitution in Its Relation to Some Forms of Sudden Death," by Dr. James Ewing. It is to be hoped that the Director of the Pathological Institute will more frequently submit the work of the laboratory to the public.

THERAPEUTIC HINTS.

The Treatment of Cancer by Application of Arsenious Acid may be rendered painless by adding to the acid an equal amount of orthoform.

For Nausea and Vomiting after Anesthesia.—Saturate a towel with fresh, strong cider-vinegar, and hold or suspend it a few inches above the patient's face. Begin the treatment as soon as the anesthetic is discontinued, and continue it for several hours. Not only is nausea thus prevented, but thirst is also relieved, and the patient is refreshed by inhalation of the vinegar. No ill effects can follow.

For Metrorrhagia.—

℞	Ext. cannabis indicæ	ʒ ss
	Ext. opii	gr. 1⅔
	Tinct. capsici	ʒ ss
	Rum	ʒ i
	Syr. acaciæ	ʒ iv.

M. Sig. A tablespoonful every hour until the flow ceases.